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 Pochet, Sylvie  
 Weissenbach, Jean  
 Saurin, William  
 Robert, Catherine  
 Vico, Virginie  
 Institut Pasteur  
 Centre National de la Recherche Scientifique CNRS  
 Ginoscope

<120> Gene bank of the cyanophage S-2L and functional analysis

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 Gly Asp Arg Gly Arg Pro Pro Arg Arg Arg Pro Leu His Pro Gly Ala  
 65 70 75 80  
 Asp Pro Pro Asp Arg Arg Pro Pro Pro Gly Asp Leu Arg Arg His Thr  
 85 90 95  
 Gly Gly Arg Met Arg Leu Leu Leu Leu Leu Leu Ala Leu Val Pro Ala  
 100 105 110  
 Ala Ala Trp Ala Asp Ala Pro Pro Asp Gly Phe Ile Pro Asp Pro Gly  
 115 120 125  
 Arg Pro Gly Trp Arg Gly Gln Arg Pro Asp Ser Pro Ala Val Trp Gln  
 130 135 140  
 Thr Pro Pro Arg Ala Tyr Asp Pro Pro Leu Gly Gly Thr Pro Ser Gly  
 145 150 155 160

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Gly Pro Trp Arg Gly Ala Pro Val Gly Phe Ile Pro Val Pro Ser Trp  
 165 170 175  
 Arg Gly Ala Pro Val Gly Phe Arg Met Thr Gly Pro Ser Val Gly Gly  
 180 185 190  
 Ala Pro Arg Gly Trp Leu Pro Pro Ala Gly Glu Gly Cys Arg Gly Cys  
 195 200 205  
 Arg Val Glu Arg Asp Arg Val Ala Val Leu Gly Asn His Pro Thr Ala  
 210 215 220  
 Glu Ala Asp Pro Ala Leu Val Arg Val His Asp Leu Asp Lys Ile Pro  
 225 230 235 240  
 Arg Ala Gln Gly His Pro Met Ala Pro Thr Leu Asn Val Thr Val Ser  
 245 250 255  
 Ser Arg Thr Leu Arg  
 260

<210> 4  
 <211> 111  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 10 right: 342 frame: 2 size(aa): 111

<400> 4  
 Arg Arg Val Leu Asp Asp Thr Val Thr Phe Lys Val Gly Ala Ile Gly  
 1 5 10 15  
 Trp Pro Cys Ala Leu Gly Ile Leu Ser Arg Ser Trp Thr Arg Thr Arg  
 20 25 30  
 Ala Gly Ser Ala Ser Ala Val Gly Trp Leu Pro Arg Thr Ala Thr Arg  
 35 40 45  
 Ser Arg Ser Thr Arg His Pro Arg His Pro Ser Pro Ala Gly Gly Ser  
 50 55 60  
 Gln Pro Arg Gly Ala Pro Pro Thr Asp Gly Pro Val Ile Arg Lys Pro  
 65 70 75 80  
 Thr Gly Ala Pro Arg His Asp Gly Thr Gly Met Lys Pro Thr Gly Ala  
 85 90 95  
 Pro Arg Gln Gly Pro Pro Glu Gly Val Pro Pro Arg Gly Gly Ser  
 100 105 110

<210> 5  
 <211> 82  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 35 right: 280 frame: 3 size(aa): 82

<400> 5  
 Arg Ser Arg Trp Ala Pro Ser Asp Gly Pro Ala Pro Trp Gly Ser Cys  
 1 5 10 15

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Gln Gly His Gly Pro Gly Gln Gly Arg Gly Pro Leu Arg Arg Ser Gly  
 20 25 30  
 Gly Cys Pro Gly Arg Arg His Asp His Ala Arg Arg Gly Thr Pro Asp  
 35 40 45  
 Thr Pro Arg Arg Pro Gly Ala Ala Ser Pro Gly Gly His Arg Pro Arg  
 50 55 60  
 Thr Gly Arg Ser Ser Gly Ser Arg Pro Gly Pro Arg Ala Thr Thr Ala  
 65 70 75 80  
 Pro Gly

<210> 6  
 <211> 65  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 41 right: 235 frame: -3 size(aa): 65

<400> 6  
 Pro Ala Arg Pro Trp Ala Val Pro Pro Gly Ala Gly Cys Pro Arg Pro  
 1 5 10 15  
 Ala Arg Gly Val Gly Gly Ala Ala Ser Ser Val Ile Val Ser Pro Ser  
 20 25 30  
 Trp Ala Thr Thr Arg Pro Pro Lys Arg Thr Pro Pro Leu Ser Gly Ser  
 35 40 45  
 Met Thr Leu Thr Arg Ser Pro Gly Arg Arg Ala Ile Arg Trp Arg Pro  
 50 55 60  
 Pro  
 65

<210> 7  
 <211> 91  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 157 right: 429 frame: -2 size(aa): 91

<400> 7  
 Arg Leu His Pro Arg Pro Gly Ala Pro Arg Leu Ala Trp Ala Ala Ala  
 1 5 10 15  
 Arg Gln Pro Gly Gly Leu Ala Asp Pro Ala Gln Gly Leu Arg Pro Ala  
 20 25 30  
 Pro Arg Arg His Pro Leu Arg Gly Pro Leu Ala Arg Gly Pro Gly Arg  
 35 40 45  
 Leu His Pro Gly Ala Val Val Ala Arg Gly Pro Gly Arg Leu Pro Asp  
 50 55 60  
 Asp Arg Pro Val Arg Gly Arg Cys Pro Pro Gly Leu Ala Ala Pro Gly  
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65 70 75 80

Arg Arg Gly Val Ser Gly Val Pro Arg Arg Ala

85 90

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<210>	8
<211>	84
<212>	PRT
<213>	Cyanophage S-2L

```
<220>
<221> misc_feature
<223> New ORF = left: 239 right: 490 frame: -3 size(aa): 84
```

**<400> 8**

[illegible]

<210>	9
<211>	224
<212>	PRT
<213>	Cyanophage S-2L

```
<220>
<221> misc_feature
<223> New ORF = left: 346 right: 1017 frame: 2 size(aa): 224
```

**<400> 9**

Ala 1	Leu	Gly	Gly	Val 5	Cys	Gln	Thr	Ala	Gly 10	Leu	Ser	Gly	Arg	Cys 15	Pro
Arg	Gln	Pro	Gly 20	Arg	Pro	Gly	Ser	Gly 25	Met	Lys	Pro	Ser	Gly 30	Gly	Ala
Ser	Ala	Gln 35	Ala	Ala	Ala	Gly	Thr 40	Arg	Ala	Ser	Arg	Ser 45	Ser	Arg	Ser
Leu	Met 50	Arg	Pro	Pro	Val	Trp 55	Arg	Arg	Arg	Ser	Pro 60	Gly	Gly	Gly	Arg
Arg 65	Ser	Gly	Gly	Ser	Ala 70	Pro	Gly	Cys	Arg	Gly 75	Arg	Arg	Arg	Gly	Gly 80
Arg	Pro	Arg	Ser	Pro 85	Ser	Arg	Arg	Arg	Ala 90	Cys	Ala	Ala	Arg	Gly 95	Leu
Arg	Ala	Gly	Ser 100	Arg	Gly	Arg	Arg	Ser 105	Leu	Gly	His	Pro	Leu 110	Gly	Arg



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Gly Gly Leu Pro Ala Ala Val Pro Gln His Gln Ile His Pro Gly Asp  
 115 120 125  
 Ala Gln Ile Glu Leu Ala Ala Gly Glu Asp Leu Leu Pro Leu Val Leu  
 130 135 140  
 Gly His Leu Asp Ser Gln Pro Gly His Ala Met Leu Glu Asp Arg Val  
 145 150 155 160  
 Asp Val Arg Gly Val Leu Val Glu Ile Pro Val Glu Leu Gln Glu Val  
 165 170 175  
 Pro Ala Pro Phe Val Ser Glu Gly Val Asp Gly Pro Pro Arg Thr Gly  
 180 185 190  
 Val Gly Ser Ser Val Arg Ser Gly Arg Gly His Gly Asp Arg Thr Ser  
 195 200 205  
 Gly Arg Thr Gly Pro Arg Arg Gln Gly Pro Val Pro Arg Pro Glu Gly  
 210 215 220

<210> 10  
 <211> 158  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 425 right: 898 frame: 3 size(aa): 158

<400> 10

Ser Arg Gln Val Gly Arg Arg Pro Arg Pro Gln Pro Ala Pro Gly Pro  
 1 5 10 15  
 Ala Gly Ala Ala Gly Ala Ser Cys Gly Leu Leu Tyr Gly Gly Val Asp  
 20 25 30  
 Leu Pro Glu Ala Val Ala Gly Leu Ala Asp Leu Leu Arg Gly Ala Gly  
 35 40 45  
 Asp Asp Val Glu Ala Asp Gly Pro Gly Leu Arg Ala Asp Val Gly His  
 50 55 60  
 Val Arg Leu Glu Ala Phe Gly Pro Gly Arg Gly Gly Val Val His Trp  
 65 70 75 80  
 Gly Thr Pro Trp Val Glu Val Gly Ser Gln Pro Pro Cys Pro Ser Thr  
 85 90 95  
 Arg Ser Thr Pro Ala Met Pro Arg Ser Ser Leu Arg Leu Ala Arg Ile  
 100 105 110  
 Ser Phe Leu Leu Cys Trp Ala Thr Ser Ile Val Ser Gln Ala Met Pro  
 115 120 125  
 Cys Trp Arg Thr Glu Ser Met Cys Gly Val Tyr Ser Leu Lys Ser Arg  
 130 135 140  
 Leu Ser Ser Arg Arg Tyr Gln Pro Arg Leu Ser Val Arg Ala  
 145 150 155

<210> 11  
 <211> 75  
 <212> PRT  
 <213> Cyanophage S-2L

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&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 433 right: 657 frame: -2 size(aa): 75

&lt;400&gt; 11

Thr Thr Pro Pro Arg Pro Gly Pro Lys Ala Ser Ser Arg Thr Cys Pro  
 1 5 10 15  
 Thr Ser Ala Arg Arg Pro Gly Pro Ser Ala Ser Thr Ser Ser Pro Ala  
 20 25 30  
 Pro Arg Ser Arg Ser Ala Arg Pro Ala Thr Ala Ser Gly Arg Ser Thr  
 35 40 45  
 Pro Pro Tyr Arg Arg Pro His Glu Ala Pro Ala Ala Pro Ala Gly Pro  
 50 55 60  
 Gly Ala Gly Cys Gly Leu Gly Arg Arg Pro Thr  
 65 70 75

&lt;210&gt; 12

&lt;211&gt; 131

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 494 right: 886 frame: -3 size(aa): 131

&lt;400&gt; 12

Gln Thr Gly Leu Val Pro Pro Gly Ala Gln Pro Gly Phe Gln Arg Val  
 1 5 10 15  
 His Pro Ala His Arg Leu Gly Pro Pro Thr Trp His Gly Leu Ala Asp  
 20 25 30  
 Tyr Arg Gly Gly Pro Ala Gln Glu Gly Asp Pro Arg Gln Pro Gln  
 35 40 45  
 Ala Arg Ser Gly His Arg Arg Gly Gly Ser Gly Ala Gly Ala Arg Arg  
 50 55 60  
 Leu Gly Ala His Leu Asp Pro Gly Gly Ala Pro Val Asn Asp Ala Pro  
 65 70 75 80  
 Ser Thr Arg Pro Glu Gly Leu Glu Pro His Met Pro Tyr Val Cys Ser  
 85 90 95  
 Glu Thr Gly Ala Val Arg Leu Asp Val Val Pro Cys Thr Pro Glu Gln  
 100 105 110  
 Ile Arg Gln Thr Gly Asp Arg Leu Arg Glu Ile Tyr Ala Ala Ile Gln  
 115 120 125  
 Glu Ala Ala  
 130

&lt;210&gt; 13

&lt;211&gt; 59

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

<223> New ORF = left: 612 right: 788 frame: 1 size(aa): 59

<400> 13

Gly Met Cys Gly Ser Arg Pro Ser Gly Arg Val Glu Gly Ala Ser Phe  
 1 5 10 15  
 Thr Gly Ala Pro Pro Gly Ser Arg Trp Ala Pro Ser Arg Arg Ala Pro  
 20 25 30  
 Ala Pro Asp Pro Pro Arg Arg Cys Pro Asp Arg Ala Cys Gly Trp Arg  
 35 40 45  
 Gly Ser Pro Ser Ser Cys Ala Gly Pro Pro Arg  
 50 55

<210> 14

<211> 134

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 661 right: 1062 frame: -2 size(aa): 134

<400> 14

Ser Ala Trp Cys Trp Gly Ser His Pro Ala Ala His Ser Arg Leu Pro  
 1 5 10 15  
 Leu Arg Pro Arg His Arg Pro Leu Thr Pro Arg Pro Ser Ser Ser Thr  
 20 25 30  
 Arg Pro Ile Pro Met Ser Ser Pro Thr Ser Asn Ala Ala Thr Asp Ser  
 35 40 45  
 Arg Pro Arg Arg Thr Val Tyr Ala Leu Thr Asp Lys Arg Gly Trp Tyr  
 50 55 60  
 Leu Leu Glu Leu Asn Arg Asp Phe Asn Glu Tyr Thr Pro His Ile Asp  
 65 70 75 80  
 Ser Val Leu Gln His Gly Met Ala Trp Leu Thr Ile Glu Val Ala Gln  
 85 90 95  
 His Lys Arg Lys Glu Ile Leu Ala Ser Arg Lys Leu Asp Leu Gly Ile  
 100 105 110  
 Ala Gly Val Asp Leu Val Leu Gly His Gly Gly Trp Glu Pro Thr Ser  
 115 120 125  
 Thr Gln Gly Val Pro Gln  
 130

<210> 15

<211> 65

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 795 right: 989 frame: -1 size(aa): 65

<400> 15

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Arg Arg Gly Pro Val Arg Pro Leu Val Leu Ser Pro Cys Pro Arg Pro  
1 5 10 15  
Leu Arg Thr Leu Leu Pro Thr Pro Val Leu Gly Gly Pro Ser Thr Pro  
20 25 30  
Ser Leu Thr Asn Gly Ala Gly Thr Ser Trp Ser Ser Thr Gly Ile Ser  
35 40 45  
Thr Ser Thr Pro Arg Thr Ser Thr Arg Ser Ser Asn Met Ala Trp Pro  
50 55 60

Gly  
65

<210> 16  
<211> 80  
<212> PRT  
<213> Cyanophage S-2L  
  
<220>  
<221> misc\_feature  
<223> New ORF = left: 890 right: 1129 frame: -3 size(aa): 80

<400> 16

Ala Pro Leu Phe Ser Gln Gln Ser Ser Pro Ser Leu Gln Pro Ser Met  
1 5 10 15  
Leu Leu Leu Leu Arg Leu Ile Arg Leu Val Leu Gly Val Pro Pro Arg  
20 25 30  
Arg Pro Gln Pro Pro Thr Pro Pro Ala Ser Ala Pro Ala Pro Asp Ala  
35 40 45  
Glu Ala Gln Phe Val His Ser Ser Tyr Pro His Val Leu Ala His Phe  
50 55 60  
Glu Arg Cys Tyr Arg Leu Pro Ser Ser Glu Asp Arg Leu Arg Pro His  
65 70 75 80

<210> 17  
<211> 64  
<212> PRT  
<213> Cyanophage S-2L  
  
<220>  
<221> misc\_feature  
<223> New ORF = left: 902 right: 1093 frame: 3 size(aa): 64

<400> 17

Thr Val Leu Arg Gly Arg Glu Ser Val Ala Ala Phe Glu Val Gly Glu  
1 5 10 15  
Asp Met Gly Ile Gly Arg Val Asp Glu Leu Gly Leu Gly Val Arg Gly  
20 25 30  
Arg Cys Arg Gly Arg Arg Gly Arg Arg Leu Trp Ala Ala Gly Trp Asp  
35 40 45  
Pro Gln His Gln Ala Asp Gln Ala Lys Glu Gln Gln His Arg Arg Leu  
50 55 60

<210> 18  
<211> 50

<212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 963 right: 1112 frame: 1 size(aa): 50  
 <400> 18  
 Asp Glu Trp Thr Asn Trp Ala Ser Ala Ser Gly Ala Gly Ala Glu Ala  
 1 5 10 15  
 Gly Gly Val Gly Gly Cys Gly Arg Arg Gly Gly Thr Pro Ser Thr Lys  
 20 25 30  
 Arg Ile Arg Arg Arg Ser Ser Asn Ile Asp Gly Cys Lys Asp Gly Glu  
 35 40 45  
 Asp Cys  
 50

<210> 19  
 <211> 104  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 993 right: 1304 frame: -1 size(aa): 104

<400> 19  
 Leu Gln Ala Pro Asp Arg Gly Cys Gly Gln Ala Met Gly Leu Leu Pro  
 1 5 10 15  
 Pro Pro Pro Gly Gln Ala Pro Asp Leu Glu Ala Pro Gln Arg Arg His  
 20 25 30  
 Arg Arg His Pro Gly Leu Val Cys Gln Leu Ala Arg Gly Pro Gln Arg  
 35 40 45  
 Arg Ile Pro His Ala Gln Ser Arg Leu Met Ser Ser Pro Ile Leu Ser  
 50 55 60  
 Ala Val Leu Ala Val Leu Thr Ala Val Tyr Val Ala Ala Pro Ser Pro  
 65 70 75 80  
 Asp Pro Leu Gly Ala Gly Gly Pro Thr Pro Pro Pro Thr Ala Ala Tyr  
 85 90 95  
 Pro Ser Gly Leu Gly Thr Gly Pro  
 100

<210> 20  
 <211> 56  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 1066 right: 1233 frame: -2 size(aa): 56

<400> 20  
 Ser Gly Ser Thr Pro Thr Ala Pro Pro Ser Ser Pro Arg Pro Arg Leu  
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1                    5                    10                    15  
 Pro Thr Gly Thr Trp Ser Pro Thr Pro Asn Pro Ala Cys Ala Glu Pro  
                   20                    25                    30  
 Pro His Glu Leu Pro Tyr Ser Leu Ser Ser Pro Arg Arg Pro Tyr Ser  
                   35                    40                    45  
 Arg Leu Cys Cys Cys Ser Phe Ala  
                   50                    55

<210> 21  
 <211> 196  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 1133 right: 1720 frame: -3 size(aa): 196

<400> 21  
 Ser His Val Arg Thr Asp Pro Pro Arg Arg Arg Arg Arg Leu Arg Asp  
 1                    5                    10                    15  
 Leu Arg Trp Leu Arg Pro Gly Asp Pro Arg Gln Arg Pro Pro Leu Ala  
                   20                    25                    30  
 His Gly Arg Leu Pro Gly Ala Gly Arg Arg Arg Glu Pro Pro Ala Val  
                   35                    40                    45  
 Pro Arg Arg Pro Arg Pro Gly Gly Ala Thr Ala Ser Arg Gly His Pro  
                   50                    55                    60  
 Ala Arg Pro Gly Gly Ala His Pro Leu Pro Pro Leu Thr Pro Cys Pro  
 65                    70                    75                    80  
 Asp Ser Ala Ser Ser Thr Arg Ser Pro Gly Cys Leu Ser Ala Pro Arg  
                   85                    90                    95  
 Ser Ser Thr Ile Arg Pro Ala Ala Trp Ser Ala Ala Arg Asp Ala Ser  
                   100                    105                    110  
 Ala Pro Ser Ser Ala Ala Cys Ala Ser Gly Trp Arg Ser Pro Gln Pro  
                   115                    120                    125  
 Lys Pro Gly Arg Thr Cys Pro Val Ser Gly Ser Tyr Arg Arg Gln Ile  
                   130                    135                    140  
 Glu Ala Ala Ala Lys Arg Trp Gly Phe Tyr Leu His Arg Gln Gly Lys  
 145                    150                    155                    160  
 His Leu Ile Trp Lys His Pro Asn Gly Ala Thr Val Val Thr Pro Ala  
                   165                    170                    175  
 Ser Ser Ala Asn Trp His Val Val Pro Asn Ala Glu Ser Arg Met Arg  
                   180                    185                    190  
 Arg Ala Ala Ser  
                   195

<210> 22  
 <211> 89  
 <212> PRT  
 <213> Cyanophage S-2L

<220>



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<221> misc\_feature

<223> New ORF = left: 1136 right: 1402 frame: 3 size(aa): 89

<400> 22

Gly Gly Ser Ala His Ala Gly Phe Gly Val Gly Asp His Val Pro Val  
1 5 10 15  
Gly Arg Arg Gly Arg Gly Asp Asp Gly Gly Ala Val Gly Val Leu Pro  
20 25 30  
Asp Gln Val Leu Ala Leu Ala Val Glu Val Glu Ala Pro Ser Leu Gly  
35 40 45  
Arg Ser Leu Asp Leu Ala Pro Val Ala Thr Gly His Gly Thr Gly Pro  
50 55 60  
Pro Gly Leu Arg Leu Gly Ala Pro Pro Ala Arg Arg Ala Cys Arg Arg  
65 70 75 80  
Arg Gly Arg Arg Gly Val Pro Arg Ser  
85

<210> 23

<211> 73

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 1204 right: 1422 frame: 2 size(aa): 73

<400> 23

Arg Arg Trp Arg Arg Trp Gly Ala Ser Arg Ser Gly Ala Cys Pro Gly  
1 5 10 15  
Gly Gly Gly Arg Ser Pro Ile Ala Trp Pro Gln Pro Arg Ser Gly Ala  
20 25 30  
Cys Ser Tyr Arg Thr Arg Asp Arg Ser Ser Arg Ala Ser Ala Gly Gly  
35 40 45  
Ser Ser Ser Gln Thr Arg Met Pro Pro Thr Arg Ala Gln Arg Arg Pro  
50 55 60  
Ser Gln Leu Thr Thr Arg Pro Ala Gly  
65 70

<210> 24

<211> 85

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 1237 right: 1491 frame: -2 size(aa): 85

<400> 24

His His Ala Gln Thr Pro His Pro Ala Pro Ala Pro Arg Asp Ala Ser  
1 5 10 15  
Gln Pro Pro Gly Pro Gln Leu Ser Gly Arg Pro Arg Gly Gln Leu Arg  
20 25 30

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Gly Thr Pro Leu Arg Pro Arg Arg Arg His Ala Arg Leu Ala Gly Gly  
 35 40 45  
 Ala Pro Ser Arg Ser Pro Gly Gly Pro Val Pro Cys Pro Val Ala Thr  
 50 55 60  
 Gly Ala Arg Ser Arg Leu Arg Pro Ser Asp Gly Ala Ser Thr Ser Thr  
 65 70 75 80  
 Ala Arg Ala Ser Thr  
 85

<210> 25  
 <211> 112  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 1305 right: 1640 frame: 1 size(aa): 112

<400> 25

Leu Pro Asp Thr Gly Gln Val Leu Pro Gly Phe Gly Trp Gly Leu Leu  
 1 5 10 15  
 Gln Pro Asp Ala His Ala Ala Asp Glu Gly Ala Glu Ala Ser Leu Ala  
 20 25 30  
 Ala Asp His Ala Ala Gly Arg Ile Val Glu Asp Leu Gly Ala Glu Arg  
 35 40 45  
 His Pro Gly Glu Arg Val Leu Asp Ala Glu Ser Gly His Gly Val Arg  
 50 55 60  
 Gly Gly Arg Gly Trp Ala Pro Pro Gly Arg Ala Gly Trp Pro Leu Glu  
 65 70 75 80  
 Ala Val Ala Pro Pro Gly Arg Gly Arg Arg Gly Thr Ala Gly Gly Ser  
 85 90 95  
 Arg Arg Arg Pro Ala Pro Gly Arg Arg Pro Trp Ala Ser Gly Gly Arg  
 100 105 110

<210> 26  
 <211> 177  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 1308 right: 1838 frame: -1 size(aa): 177

<400> 26

Arg Ala Gly Arg Leu His Arg Leu Pro Ala Pro Ala Val Pro Gly Asp  
 1 5 10 15  
 Gly Gln Pro Arg Leu His Pro Gln Gly His Leu Arg His Pro Ala Pro  
 20 25 30  
 Asp Leu Ser Arg Leu Pro Leu Ile Pro Cys Pro Asn Arg Pro Ala Thr  
 35 40 45  
 Ser Ala Thr Ala Ser Thr Arg Pro Ser Met Ala Thr Ala Trp Arg Ser  
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50 55  
Ala Ser Thr Thr Thr Ala Arg Pro Trp Ser Pro Thr Trp Ser Arg Ala  
65 70 75 80  
Ser Ser Arg Thr Ser Ser Gly Ser Ser Thr Thr Thr Pro Arg Trp Ser  
85 90 95  
Asp Ser Phe Lys Arg Pro Pro Gly Ser Thr Trp Trp Ser Pro Pro Pro  
100 105 110  
Pro Pro Ser Asp Thr Met Pro Arg Leu Arg Ile Gln His Pro Leu Pro  
115 120 125  
Gly Met Pro Leu Ser Pro Gln Val Leu Asn Tyr Pro Ala Gly Arg Val  
130 135 140  
Val Ser Cys Glu Gly Arg Leu Cys Ala Leu Val Gly Gly Met Arg Val  
145 150 155 160  
Trp Leu Glu Glu Pro Pro Ala Glu Ala Arg Glu Asp Leu Ser Arg Val  
165 170 175

Arg

<210> 27  
<211> 120  
<212> PRT  
<213> Cyanophage S-2L  
  
<220>  
<221> misc\_feature  
<223> New ORF = left: 1426 right: 1785 frame: 2 size(aa): 120

<400> 27

Leu Arg Thr Trp Gly Leu Arg Gly Ile Pro Gly Ser Gly Cys Trp Met  
1 5 10 15  
Arg Ser Leu Gly Met Val Ser Glu Gly Gly Gly Gly Gly Leu His Gln  
20 25 30  
Val Glu Pro Gly Gly Leu Leu Lys Leu Ser Leu His Leu Gly Val Val  
35 40 45  
Val Glu Glu Pro Leu Glu Val Arg Asp Asp Ala Arg Leu Gln Val Gly  
50 55 60  
Asp His Gly Arg Ala Val Val Val Asp Ala Asp Leu Gln Ala Val Ala  
65 70 75 80  
Ile Glu Gly Arg Val Asp Ala Val Ala Asp Val Ala Gly Leu Phe Gly  
85 90 95  
His Gly Ile Asn Gly Lys Arg Glu Arg Ser Gly Ala Gly Cys Arg Arg  
100 105 110  
Cys Pro Trp Gly Trp Ser Arg Gly  
115 120

<210> 28  
<211> 82  
<212> PRT  
<213> Cyanophage S-2L

<220>

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<221> misc\_feature

<223> New ORF = left: 1495 right: 1740 frame: -2 size(aa): 82

<400> 28

Ser Leu Ser Leu Ala Val Asp Pro Met Ser Glu Gln Thr Arg His Val  
1 5 10 15  
Gly Asp Gly Val Tyr Ala Thr Phe Asp Gly Tyr Gly Leu Glu Ile Arg  
20 25 30  
Val Asn Asp His Arg Ser Pro Met Val Ala Tyr Leu Glu Pro Gly Val  
35 40 45  
Val Ala Asn Leu Gln Arg Phe Leu Asp Asp His Ala Gln Val Glu Arg  
50 55 60  
Gln Leu Gln Glu Ala Thr Arg Leu Asp Leu Val Glu Pro Thr Pro Ser  
65 70 75 80  
Pro Leu

<210> 29

<211> 57

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 1644 right: 1814 frame: 1 size(aa): 57

<400> 29

Arg Gly Ser Pro Gly Arg Ser His Arg Arg Ser Arg Arg Arg Arg Arg  
1 5 10 15  
Arg Arg Gly Gly Ser Val Arg Thr Trp Asp Gln Arg Gln Ala Arg Glu  
20 25 30  
Ile Arg Arg Trp Val Ser Glu Met Ser Leu Gly Val Glu Ser Gly Leu  
35 40 45  
Thr Ile Ser Arg Asn Ser Arg Cys Arg  
50 55

<210> 30

<211> 146

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 1682 right: 2119 frame: 3 size(aa): 146

<400> 30

Thr Pro Ser Pro Thr Trp Arg Val Cys Ser Asp Met Gly Ser Thr Ala  
1 5 10 15  
Ser Glu Arg Asp Gln Ala Leu Gly Val Gly Asp Val Leu Gly Gly Gly  
20 25 30  
Val Gly Val Asp His Leu Gln Glu Gln Gln Val Pro Val Gly Gly Ala  
35 40 45

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Gly Ala Leu Pro Val Thr Thr Gly Thr Ala Ala Asp Ala Ile Leu Glu  
50 55 60  
Cys Ala Gln Leu Gly Val Glu Ala Lys His Ala Arg Ala Gly Leu Glu  
65 70 75 80  
Arg Gly Arg Leu Arg Cys Gly Gly Gly Glu Asp Asp Glu Ala Thr Ala  
85 90 95  
Glu Gly Gly Lys Glu Gly Val Glu Gly Ser His Gly Arg Gly Trp Arg  
100 105 110  
Trp Thr Pro Gly Lys Gly Pro Leu Gly Ala Pro Glu Gly Phe Gly Arg  
115 120 125  
Gly Arg Gly Gly Ser Ala Gln Ala Glu Gly Gln Leu Ala Gly Leu Gly  
130 135 140  
Gln Gly  
145

<210> 31  
<211> 118  
<212> PRT  
<213> Cyanophage S-2L  
<220>  
<221> misc\_feature  
<223> New ORF = left: 1724 right: 2077 frame: -3 size(aa): 118

<400> 31  
Pro Pro Pro Ala Thr Ala Glu Pro Leu Arg Gly Pro Gln Gly Pro Leu  
1 5 10 15  
Ser Arg Cys Pro Pro Pro Pro Pro Met Arg Pro Leu Tyr Ala Phe  
20 25 30  
Leu Ser Thr Phe Cys Gly Gly Leu Val Val Phe Ala Ala Thr Thr Ala  
35 40 45  
Gln Ala Ser Pro Leu Glu Pro Ser Thr Gly Val Phe Arg Leu Tyr Ala  
50 55 60  
Gln Leu Gly Ala Leu Glu Tyr Gly Val Arg Ser Arg Ala Arg Gly Asp  
65 70 75 80  
Gly Gln Gly Ala Cys Thr Ala Tyr Arg His Leu Leu Phe Leu Glu Met  
85 90 95  
Val Asn Pro Asp Ser Thr Pro Lys Asp Ile Ser Asp Thr Gln Arg Leu  
100 105 110  
Ile Ser Leu Ala Cys Arg  
115

<210> 32  
<211> 85  
<212> PRT  
<213> Cyanophage S-2L  
<220>  
<221> misc\_feature  
<223> New ORF = left: 1744 right: 1998 frame: -2 size(aa): 85

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<400> 32

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Asp Pro Ser Thr Pro Ser Phe Pro Pro Ser Ala Val Ala Ser Ser Ser
1          5          10          15
Ser Pro Pro Pro Gln Arg Arg Arg Pro Arg Ser Ser Pro Ala Arg Ala
20         25
Cys Phe Ala Ser Thr Pro Ser Trp Ala His Ser Ser Met Ala Ser Ala
35         40         45
Ala Val Pro Val Val Thr Gly Arg Ala Pro Ala Pro Pro Thr Gly Thr
50         55         60
Cys Cys Ser Trp Arg Trp Ser Thr Pro Thr Pro Pro Arg Thr Ser
65         70         75         80
Pro Thr Pro Ser Ala
85

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<210> 33

<211> 100

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 1789 right: 2088 frame: 2 size(aa): 100

<400> 33

```

Pro Ser Pro Gly Thr Ala Gly Ala Gly Arg Arg Cys Arg Arg Pro Ala
1          5          10          15
Arg His His Gly His Gly Cys Gly Arg His Thr Arg Val Arg Pro Ala
20         25         30
Gly Arg Arg Gly Glu Thr Arg Pro Cys Trp Ala Arg Ala Gly Thr Pro
35         40         45
Ala Leu Trp Trp Arg Arg Arg Arg Gly His Arg Arg Arg Trp Lys
50         55         60
Gly Arg Arg Arg Gly Val Ser Trp Glu Gly Val Glu Val Asp Thr Trp
65         70         75         80
Lys Gly Ala Pro Gly Gly Pro Gly Gly Val Arg Pro Trp Pro Gly Gly
85         90         95
Val Ser Pro Gly
100

```

<210> 34

<211> 385

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 1842 right: 2996 frame: -1 size(aa): 385

<400> 34

```

Pro Ala Gly Gly Gly Ala Arg His Gln Ala Arg Leu Pro Arg Pro Arg
1          5          10          15

```



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Arg Gly Arg Arg Arg Arg Gly Leu Ile 25 Ala Pro Cys Tyr Ser Gly Asp  
 20 25 30  
 Thr Gly Ser Gly Arg Pro Pro Pro Tyr Ser Asn Arg Pro Trp Pro Ser  
 35 40 45  
 Cys Pro Ala Ile Arg Thr Thr Pro Ser Glu Arg Ala Pro Pro Gly Pro  
 50 55 60  
 Pro Pro Pro Pro Ala Ser Trp Ser Arg Cys Pro Pro Ser Arg Thr Cys  
 65 70 75 80  
 Cys Ser Arg Arg Thr Thr Pro Pro Pro Ala Ser Gly Asn Gly Ser Ser  
 85 90 95  
 Arg Cys Cys Arg Trp Ser Pro Pro Trp Arg Pro Arg Cys Ser Arg Arg  
 100 105 110  
 Cys Arg Arg Pro Pro Phe Ala Arg Cys Pro Pro Gly Trp Thr Thr Arg  
 115 120 125  
 Ser Ser Arg Pro Gly Asn Trp Cys Ala Gly Leu Arg Ser Trp Leu Thr  
 130 135 140  
 Arg Ser Val Cys Asp Ile Leu Arg Gly Asp Cys Ser Arg Ala Leu Ile  
 145 150 155 160  
 Val Glu Arg Arg Gly Asn Cys Pro Ser Thr Ala Pro Pro Pro Asn Gly  
 165 170 175  
 His His Leu Tyr Arg His Pro Pro Arg Arg His His Arg His Pro Gln  
 180 185 190  
 Val Gly Arg Ala His Leu His Pro Leu Arg Arg Pro Pro Val Gln Arg  
 195 200 205  
 Arg His Leu Val Arg Pro Gln Leu Gly Arg Pro Pro Arg Pro Gly His  
 210 215 220  
 Arg Ser Arg Cys Glu Asp Arg Gly Pro Gly Asp Arg Gly Asp Arg Arg  
 225 230 235 240  
 Pro His Asp Ser Gly Pro Gln Gly Pro Asp Gln Gly Pro Asp Pro Gly  
 245 250 255  
 Cys Pro Pro Gly Arg Arg Leu Leu His Val Arg Leu Gly Pro His Gly  
 260 265 270  
 Pro Leu His His Arg Pro Pro Arg Arg Arg His Arg Gln Arg Cys Arg  
 275 280 285  
 Leu Pro Val Ser Asn Pro Gly Arg Gly Pro Gln Ala Gly Pro Gln Pro  
 290 295 300  
 Gly Leu Thr Pro Pro Gly His Gly Arg Thr Pro Pro Gly Pro Pro Gly  
 305 310 315 320  
 Ala Pro Phe Gln Val Ser Thr Ser Thr Pro Ser His Glu Thr Pro Leu  
 325 330 335  
 Arg Leu Pro Phe His Leu Leu Arg Trp Pro Arg Arg Leu Arg Arg His  
 340 345 350  
 His Ser Ala Gly Val Pro Ala Arg Ala Gln His Gly Arg Val Ser Pro  
 355 360 365  
 Leu Arg Pro Ala Gly Arg Thr Arg Val Trp Arg Pro Gln Pro Cys Pro  
 370 375 380

Trp  
385

<210> 35  
<211> 61  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> New ORF = left: 1992 right: 2174 frame: 1 size(aa): 61

<400> 35

Arg Gly Leu Met Gly Gly Gly Gly Gly Gly His Leu Glu Arg Gly Pro  
1 5 10 15  
Trp Gly Pro Arg Arg Gly Ser Ala Val Ala Gly Gly Gly Gln Pro Arg  
20 25 30  
Leu Arg Ala Ser Leu Arg Ala Ser Ala Arg Val Arg Asp Trp Gln Ser  
35 40 45  
Ala Ser Leu Ala Met Ser Pro Pro Gly Arg Thr Met Val  
50 55 60

<210> 36  
<211> 145  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> New ORF = left: 2081 right: 2515 frame: -3 size(aa): 145

<400> 36

Trp Asn Gly Gly Gly Thr Ala Pro Pro Pro Leu Leu Pro Pro Met Ala  
1 5 10 15  
Thr Thr Phe Thr Ala Thr Leu Pro Asp Gly Thr Thr Ala Thr Arg Lys  
20 25 30  
Ser Ala Glu Arg Thr Tyr Thr His Cys Val Ala Arg Gln Ser Ser Asp  
35 40 45  
Gly Thr Trp Phe Ala His Ser Trp Ala Gly Arg Pro Gly Leu Ala Ile  
50 55 60  
Ala Ala Ala Ala Lys Ile Gly Gly Arg Ala Ile Glu Ala Thr Val Ala  
65 70 75 80  
His Thr Thr Ala Ala Pro Lys Ala Leu Thr Lys Ala Gln Ile Gln Asp  
85 90 95  
Ala Leu Arg Ala Ala Gly Tyr Tyr Met Ser Gly Trp Val Arg Met Gly  
100 105 110  
Arg Tyr Thr Ile Val Arg Pro Gly Gly Asp Ile Ala Asn Asp Ala Asp  
115 120 125  
Cys Gln Ser Leu Thr Leu Ala Glu Ala Arg Lys Leu Ala Leu Ser Leu  
130 135 140

Gly

145

<210> 37  
 <211> 122  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 2092 right: 2457 frame: 2 size(aa): 122

&lt;400&gt; 37

Gly Pro Ala Cys Gly Pro Arg Pro Gly Leu Glu Thr Gly Ser Arg His  
 1 5 10 15  
 Arg Trp Arg Cys Arg Arg Arg Gly Gly Arg Trp Cys Ser Gly Pro Cys  
 20 25 30  
 Gly Pro Asn Arg Thr Cys Ser Ser Arg Arg Pro Gly Gly His Pro Gly  
 35 40 45  
 Ser Gly Pro Trp Ser Gly Pro Trp Gly Pro Leu Ser Cys Gly Arg Arg  
 50 55 60  
 Ser Pro Arg Ser Pro Gly Pro Arg Ser Ser Gln Arg Leu Arg Trp Pro  
 65 70 75 80  
 Gly Arg Gly Gly Arg Pro Ser Cys Gly Arg Thr Arg Cys Arg Arg Trp  
 85 90 95  
 Thr Gly Gly Arg Arg Ser Gly Cys Arg Cys Ala Arg Pro Thr Cys Gly  
 100 105 110  
 Trp Arg Trp Cys Arg Arg Gly Gly Trp Arg  
 115 120

<210> 38  
 <211> 372  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 2123 right: 3238 frame: 3 size(aa): 372

&lt;400&gt; 38

Arg Leu Ala Val Gly Ile Val Gly Asp Val Ala Ala Gly Ala Asp Asp  
 1 5 10 15  
 Gly Val Ala Ala His Ala Asp Pro Thr Gly His Val Val Ala Gly Gly  
 20 25 30  
 Pro Glu Gly Ile Leu Asp Leu Gly Leu Gly Gln Gly Leu Gly Gly Arg  
 35 40 45  
 Cys Arg Val Gly Asp Gly Arg Leu Asp Arg Pro Ala Pro Asp Leu Arg  
 50 55 60  
 Ser Gly Cys Asp Gly Gln Ala Gly Ala Ala Gly Pro Ala Val Gly Glu  
 65 70 75 80  
 Pro Gly Ala Val Ala Gly Leu Ala Gly Asp Ala Val Gly Val Gly Ala  
 85 90 95

Leu Gly Arg Leu Ala Gly Gly Gly Gly Ala Val Gly Glu Gly Gly Gly  
 100 105 110  
 Lys Gly Gly Gly His Trp Gly Glu Glu Arg Trp Arg Gly Ser Ser Pro  
 115 120 125  
 Ser Val Pro Leu Leu Lys His Gly Ser Asn Pro Arg Ala Ile Cys His  
 130 135 140  
 Arg Arg Ile Glu Ser Ala Arg Ile Ser Ser Arg Arg Thr Ser Ser Arg  
 145 150 155 160  
 Ala Cys Ser Ile Trp Trp Ser Ser Arg Ala Asp Ile Gly Gln Thr Gly  
 165 170 175  
 Ala Ala Asp Ile Phe Ser Ser Thr Gly Ala Ala Met Gly Gly Ser Ile  
 180 185 190  
 Asp Ser Thr Gly Ser Ser Arg Ser Gln Arg Arg Glu Val Glu Leu Cys  
 195 200 205  
 Val Cys Cys Ser Arg Ser Ser Arg Ala Asp Ile Cys Ser Arg Thr Pro  
 210 215 220  
 Gly Val Gly Ala Asp Leu Gly Ala Leu Ser Arg Met Ala Ser Tyr Gly  
 225 230 235 240  
 Ser Arg Gly Met Arg Ala Met Gly Gly Trp Asn Arg Val Gly Ala Gly  
 245 250 255  
 Leu Ser Arg Tyr Pro His Tyr Ser Thr Gly Gln Ser Ala Leu Val Val  
 260 265 270  
 Val Ala Leu Val Gly Val Gly Ala Ala Glu Leu Gly Gly Glu Leu Leu  
 275 280 285  
 His Gln Leu Val Lys Gly Ala Val Leu Asp Val Val Asp Leu Gly Val  
 290 295 300  
 Asp Gln Arg Arg Gln Gly Ala Pro Asp Val Gly Val Gly Leu Ala Gly  
 305 310 315 320  
 Leu Ala Val Val Val Gln Ile Gly Gly Glu Leu Val Gly Pro Val Gly  
 325 330 335  
 Gly Gly Gln Leu Val Tyr Gly Val Pro Ser Leu Gly Asp Gln Leu Glu  
 340 345 350  
 Gly Gly Gly Phe Val His Gly Gly Gly Ala Val Gly Ala Leu Arg Pro  
 355 360 365  
 Pro Tyr Thr Tyr  
 370

&lt;210&gt; 39

&lt;211&gt; 64

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 2211 right: 2402 frame: 1 size(aa): 64

&lt;400&gt; 39

Pro Ala Ala Arg Arg Ala Ser Trp Ile Trp Ala Leu Val Arg Ala Leu  
 1 5 10 15

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Gly Ala Ala Val Val Trp Ala Thr Val Ala Ser Ile Ala Arg Pro Pro  
 20 25 30  
 Ile Phe Ala Ala Ala Ala Met Ala Arg Pro Gly Arg Pro Ala Gln Leu  
 35 40 45  
 Trp Ala Asn Gln Val Pro Ser Leu Asp Trp Arg Ala Thr Gln Trp Val  
 50 55 60

<210> 40

<211> 100

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 2251 right: 2550 frame: -2 size(aa): 100

<400> 40

His Ile Ala Arg Gly Leu Leu Pro Cys Phe Asn Ser Gly Thr Glu Gly  
 1 5 10 15  
 Glu Leu Pro Leu His Arg Ser Ser Pro Gln Trp Pro Pro Pro Leu Pro  
 20 25 30  
 Pro Pro Ser Pro Thr Ala Pro Pro Pro Ala Ser Arg Pro Ser Ala  
 35 40 45  
 Pro Thr Pro Thr Ala Ser Pro Ala Ser Pro Ala Thr Ala Pro Gly Ser  
 50 55 60  
 Pro Thr Ala Gly Pro Ala Ala Pro Ala Trp Pro Ser Gln Pro Leu Arg  
 65 70 75 80  
 Arg Ser Gly Ala Gly Arg Ser Arg Arg Pro Ser Pro Thr Arg Gln Arg  
 85 90 95  
 Pro Pro Arg Pro  
 100

<210> 41

<211> 138

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 2461 right: 2874 frame: 2 size(aa): 138

<400> 41

Arg Trp Trp Pro Leu Gly Gly Gly Ala Val Glu Gly Gln Phe Pro Leu  
 1 5 10 15  
 Arg Ser Thr Ile Lys Ala Arg Glu Gln Ser Pro Arg Asn Met Ser Gln  
 20 25 30  
 Thr Asp Arg Val Ser Gln Asp Leu Lys Pro Ala His Gln Phe Pro Gly  
 35 40 45  
 Leu Leu Asp Leu Val Val Gln Pro Gly Gly His Arg Ala Asn Gly Gly  
 50 55 60  
 Arg Arg His Leu Leu Glu His Arg Gly Arg His Gly Gly Leu His Arg  
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2010059125.txt															
65				70				75				80			
Gln	His	Arg	Leu	Glu <sub>85</sub>	Pro	Phe	Pro	Glu	Ala <sub>90</sub>	Gly	Gly	Gly	Val	Val <sub>95</sub>	Arg
Leu	Leu	Gln	Gln <sub>100</sub>	Val	Leu	Glu	Gly	Gly <sub>105</sub>	His	Leu	Leu	Gln	Asp <sub>110</sub>	Ala	Gly
Gly	Gly	Gly <sub>115</sub>	Gly	Pro	Gly	Gly	Ala <sub>120</sub>	Leu	Ser	Asp	Gly	Val <sub>125</sub>	Val	Arg	Ile
Ala	Gly <sub>130</sub>	His	Glu	Gly	His	Gly <sub>135</sub>	Arg	Leu	Glu						

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<210> 42
<211> 110
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 2523 right: 2852 frame: 1 size(aa): 110
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<400> 42

Ser 1	Thr	Gly	Ala	Ile 5	Pro	Ala	Gln	Tyr	Val 10	Thr	Asp	Gly	Ser	Ser 15	Gln
Pro	Gly	Ser	Gln 20	Ala	Gly	Ala	Pro	Val 25	Pro	Gly	Pro	Ala	Arg 30	Ser	Gly
Gly	Pro	Ala 35	Gly	Arg	Thr	Ser	Gly 40	Lys	Arg	Gly	Pro	Pro 45	Thr	Ser	Ser
Arg	Ala 50	Pro	Gly	Pro	Pro	Trp 55	Gly	Ala	Pro	Ser	Thr 60	Ala	Pro	Ala	Arg
Ala 65	Val	Pro	Arg	Gly	Gly 70	Arg	Trp	Ser	Cys	Ala 75	Ser	Ala	Ala	Ala	Gly 80
Pro	Arg	Gly	Arg	Thr 85	Ser	Ala	Pro	Gly	Arg 90	Arg	Gly	Trp	Gly	Arg 95	Thr
Trp	Gly	Arg	Ser 100	Leu	Gly	Trp	Arg	Arg 105	Thr	Asp	Arg	Gly	Ala 110		

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<210> 43
<211> 118
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 2554 right: 2907 frame: -2 size(aa): 118
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<400> 43

Trp Gly Tyr Arg Leu Arg Pro Ala Pro Thr Leu Phe Gln Pro Pro Met  
1 5 10 15

Ala Leu Met Pro Arg Asp Pro Tyr Asp Ala Ile Arg Glu Ser Ala Pro  
20 25 30

Arg Ser Ala Pro Thr Pro Gly Val Leu Glu Gln Met Ser Ala Leu Glu  
35 40 45

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Asp Leu Leu Gln Gln Thr His Asn Ser Thr Ser Arg Leu Trp Glu Arg  
 50 55 60  
 Leu Glu Pro Val Leu Ser Met Glu Pro Pro Met Ala Ala Pro Val Leu  
 65 70 75 80  
 Glu Lys Met Ser Ala Ala Pro Val Cys Pro Met Ser Ala Arg Leu Asp  
 85 90 95  
 His Gln Ile Glu Gln Ala Arg Glu Leu Val Arg Arg Leu Glu Ile Leu  
 100 105 110  
 Ala Asp Ser Ile Arg Leu  
 115

<210> 44  
 <211> 114  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 2582 right: 2923 frame: -3 size(aa): 114

<400> 44  
 Leu Pro Arg Ala Ile Val Gly Ile Pro Ala Gln Ala Gly Pro His Pro  
 1 5 10 15  
 Ile Pro Thr Ala His Gly Pro His Ala Pro Arg Ser Val Arg Arg His  
 20 25 30  
 Pro Arg Glu Arg Pro Gln Val Arg Pro His Pro Arg Arg Pro Gly Ala  
 35 40 45  
 Asp Val Arg Pro Arg Gly Pro Ala Ala Ala Asp Ala Gln Leu His Leu  
 50 55 60  
 Pro Pro Leu Gly Thr Ala Arg Ala Gly Ala Val Asp Gly Ala Pro His  
 65 70 75 80  
 Gly Gly Pro Gly Ala Arg Glu Asp Val Gly Gly Pro Arg Leu Pro Asp  
 85 90 95  
 Val Arg Pro Ala Gly Pro Pro Asp Arg Ala Gly Pro Gly Thr Gly Ala  
 100 105 110  
 Pro Ala

<210> 45  
 <211> 77  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 2895 right: 3125 frame: 1 size(aa): 77

<400> 45  
 Ala Gly Ile Pro Thr Ile Ala Arg Gly Asn Gln Pro Ser Ser Ser Ser  
 1 5 10 15  
 Pro Ser Ser Gly Ser Gly Gln Pro Ser Leu Val Ala Ser Ser Ser Thr  
 20 25 30

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Ser Trp Leu Lys Ala Gln Tyr Ser Met Ser Leu Ile Ser Ala Trp Ile  
 35 40 45  
 Ser Gly Ala Arg Val Pro Gln Thr Leu Ala Trp Ala Trp Pro Gly Ser  
 50 55 60  
 Gln Trp Ser Tyr Arg Ser Ala Gly Ser Ser Ser Ala Leu  
 65 70 75

<210> 46  
 <211> 109  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 2927 right: 3253 frame: -3 size(aa): 109

<400> 46

Ile Arg Arg Ala Leu Ile Gly Ile Arg Gly Pro Lys Arg Pro His Arg  
 1 5 10 15  
 Ser Pro Thr Met Asp Lys Ala Thr Ala Leu Gln Leu Ile Ser Gln Ala  
 20 25 30  
 Trp Asp Ser Ile Asn Gln Leu Thr Ala Ala Tyr Arg Ala Asp Glu Leu  
 35 40 45  
 Pro Ala Asp Leu Tyr Asp His Cys Glu Pro Gly Gln Ala His Ala Asn  
 50 55 60  
 Val Trp Gly Thr Leu Ala Pro Leu Ile His Ala Glu Ile Asn Asp Ile  
 65 70 75 80  
 Glu Tyr Cys Ala Phe Asn Gln Leu Val Glu Glu Leu Ala Thr Lys Leu  
 85 90 95  
 Gly Cys Pro Asp Pro Asp Glu Gly Asp Asp Asp Glu Gly  
 100 105

<210> 47  
 <211> 90  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 2927 right: 3253 frame: -3 size(aa): 109

<400> 47

Gly Ile Ala Arg Leu Asn Pro Pro Cys Phe Asn Arg Tyr Thr Gly Ala  
 1 5 10 15  
 Glu Ala Pro Pro Pro Leu Pro His His Gly Gln Ser His Arg Pro Pro  
 20 25 30  
 Ala Asp Leu Pro Gly Leu Gly Leu His Lys Pro Ala Asp Arg Arg Leu  
 35 40 45  
 Gln Gly Arg Arg Ala Pro Arg Arg Ser Val Arg Pro Leu Arg Ala Arg  
 50 55 60  
 Pro Gly Pro Arg Gln Arg Leu Gly His Pro Gly Ala Ala Asp Pro Arg  
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65                      70                      80  
Arg Asp Gln Arg His Arg Val Leu Arg Leu  
                            85                      90

<210> 48  
<211> 115  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> New ORF = left: 3025 right: 3369 frame: 2 size(aa): 115

<400> 48  
Ser Arg Arg Gly Ser Ala Ala Pro Gly Cys Pro Arg Arg Trp Arg Gly  
1                      5                      10                      15  
Pro Gly Arg Ala Arg Ser Gly Arg Thr Asp Arg Arg Gly Ala Arg Arg  
                            20                      25                      30  
Pro Cys Arg Arg Arg Ser Ala Gly Leu Trp Ser Pro Lys Pro Gly Arg  
                            35                      40                      45  
Ser Ala Gly Gly Arg Trp Leu Cys Pro Trp Trp Gly Ser Gly Gly Gly  
50                      55                      60  
Ala Ser Ala Pro Val Tyr Leu Leu Lys His Gly Gly Phe Ser Arg Ala  
65                      70                      75                      80  
Ile Pro Gln Arg Arg Ser Gly Phe Val Val Val His Pro Trp Ala Arg  
                            85                      90                      95  
Tyr Arg Arg Gln Ser Ala Arg Ala Ser Ala Thr Pro Thr Val Trp Val  
                            100                      105                      110  
Ser Trp Ala  
                            115

<210> 49  
<211> 146  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> New ORF = left: 3129 right: 3566 frame: 1 size(aa): 146

<400> 49  
Ala Ala Val Ser Trp Phe Met Glu Ser Gln Ala Trp Glu Ile Ser Trp  
1                      5                      10                      15  
Arg Ala Val Ala Leu Ser Met Val Gly Glu Arg Trp Gly Arg Phe Gly  
                            20                      25                      30  
Pro Arg Ile Pro Ile Lys Ala Arg Arg Ile Gln Pro Arg Asn Thr Ser  
                            35                      40                      45  
Ala Glu Ile Gly Val Arg Ser Gly Pro Pro Leu Gly Ala Val Ser Ala  
50                      55                      60  
Pro Val Gly Ser Gly Leu Arg His Pro Asp Gly Val Gly Val Val Gly  
65                      70                      75                      80

Ile Ala Gly Pro Gly Ala Tyr Pro Asp Gly Leu Ala Val Thr Gln Gly  
85 90  
His Val Ala Pro Gly Asp Thr Val Gln Thr Arg Glu Gln Gly Ser Trp  
100 105 110  
Gln Val Glu Leu Val Asn Arg Leu Gly Ser Arg His Arg Gly Gly Ser  
115 120 125  
Ser Gly Val Gly Arg Gly Gly Gly Arg Gly Ala Pro Gly Trp Leu Arg  
130 135 140

Pro Gly  
145

<210> 50  
<211> 55  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> New ORF = left: 3241 right: 3405 frame: -2 size(aa): 55

<400> 50

Arg Pro Gly Arg Pro Asp Lys His Leu Val Arg Leu Cys Pro Arg His  
1 5 10  
Pro His Arg Arg Gly Gly Gly Gly Pro Ser Arg Leu Ala Pro Ile Pro  
20 25 30  
Arg Pro Gly Val Asp His Tyr Glu Pro Arg Ser Pro Leu Arg Tyr Cys  
35 40 45  
Ala Ala Glu Ser Ala Val Leu  
50 55

<210> 51  
<211> 104  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> New ORF = left: 3273 right: 3584 frame: -1 size(aa): 104

<400> 51

Ser Ser Thr Ser Arg Ser Thr Trp Pro Glu Pro Pro Gly Gly Pro Thr  
1 5 10 15  
Ala Pro Thr Pro Ser His Pro Thr Ala Pro Pro Thr Met Ser Arg Ser  
20 25 30  
Gln Pro Ile His Lys Leu Tyr Leu Pro Gly Pro Leu Leu Ser Gly Leu  
35 40 45  
His Arg Val Ser Arg Ser Tyr Met Pro Leu Gly Asp Gly Gln Ala Val  
50 55 60  
Arg Ile Ser Thr Trp Ser Gly Tyr Ala His Asp Thr His Thr Val Gly  
65 70 75 80  
Val Ala Glu Ala Arg Ala Asp Trp Arg Arg Tyr Arg Ala Gln Gly Trp  
85 90 95

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Thr Thr Thr Asn Pro Asp Leu Arg  
100

<210> 52  
<211> 106  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> New ORF = left: 3293 right: 3610 frame: 3 size(aa): 106

<400> 52

Trp Ser Thr Pro Gly Arg Gly Ile Gly Ala Ser Arg Leu Gly Pro Pro  
1 5 10 15  
Pro Pro Arg Arg Cys Gly Cys Arg Gly His Ser Arg Thr Arg Cys Leu  
20 25 30  
Ser Gly Arg Pro Gly Arg His Pro Gly Ala Cys Ser Ser Gly Arg His  
35 40 45  
Gly Ala Asp Gln Arg Ala Gly Val Leu Ala Gly Arg Ala Cys Glu Ser  
50 55 60  
Ala Gly Ile Ser Thr Ser Trp Gly Glu Gln Trp Gly Gly Thr Gly Trp  
65 70 75 80  
Gly Pro Trp Gly Pro Arg Val Ala Gln Ala Arg Leu Thr Leu Thr Cys  
85 90 95  
Ser Ile Ser Cys Ala Thr Trp Leu Cys Leu  
100 105

<210> 53  
<211> 124  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> New ORF = left: 3389 right: 3760 frame: -3 size(aa): 124

<400> 53

Gly Asn Arg Arg Pro Ala His Pro Arg Gly Arg Pro Arg Ala Ala His  
1 5 10 15  
His Arg Gly Gln His Arg Arg His Pro Arg Arg Arg Pro Gly Gly Ala  
20 25 30  
Gln Leu Leu Gly Val Gly Pro Val Gln Ala Asp Arg Leu Leu Gly His  
35 40 45  
Pro Leu Gln Ala Gln Pro Gly Gly Ala Ala Asp Arg Ala Arg Gln Gly  
50 55 60  
Gln Pro Gly Leu Ser His Pro Gly Ala Pro Arg Pro Pro Pro Arg Pro  
65 70 75 80  
Thr Pro Leu Leu Pro Pro Arg Cys Arg Asp Pro Ser Arg Phe Thr Ser  
85 90 95  
Ser Thr Cys Gln Asp Pro Cys Ser Leu Val Cys Thr Val Ser Pro Gly  
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100 105 110

Ala Thr Cys Pro Trp Val Thr Ala Arg Pro Ser Gly  
115 120

<210> 54  
<211> 101  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> New ORF = left: 3481 right: 3783 frame: 2 size(aa): 101

<400> 54

Ile Gly Trp Asp Leu Asp Ile Val Gly Gly Ala Val Gly Trp Asp Gly  
1 5 10 15  
Val Gly Ala Val Gly Pro Pro Gly Gly Ser Gly Gln Val Asp Leu Asp  
20 25 30  
Val Leu Asp Gln Leu Arg His Leu Ala Val Leu Val Glu Gly Ala Pro  
35 40 45  
Val Gly Asp Pro Leu Val Leu Val Leu His Gln Val Ala Glu Pro Leu  
50 55 60  
Leu Ala Gly Val Leu Asp Asp Asp Gly Val Ala Leu Asp Gly Ala Leu  
65 70 75 80  
Leu Glu Val Gly Leu Glu Asp Ala Gln Val Val Asp Tyr Leu Ser Pro  
85 90 95  
Pro Gly Ala Lys Gly  
100

<210> 55  
<211> 56  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> New ORF = left: 3588 right: 3755 frame: -1 size(aa): 56

<400> 55

Ser Thr Thr Cys Ala Ser Ser Arg Pro Thr Ser Ser Ser Ala Pro Ser  
1 5 10 15  
Arg Ala Thr Pro Ser Ser Ser Lys Thr Pro Ala Arg Arg Gly Ser Ala  
20 25 30  
Thr Trp Cys Arg Thr Ser Thr Ser Gly Ser Pro Thr Gly Ala Pro Ser  
35 40 45  
Thr Ser Thr Ala Arg Trp Arg Ser  
50 55

<210> 56  
<211> 76  
<212> PRT  
<213> Cyanophage S-2L

<220>

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<221> misc\_feature

<223> New ORF = left: 3652 right: 3879 frame: -2 size(aa): 76

<400> 56

Ile Pro Arg Val Leu Ile Val Val Arg Gly Pro Arg Arg Pro His Arg  
1 5 10 15  
Phe Gln Thr Met Asp Thr Ile His Thr Gln Phe Ala Glu Ala Gly Leu  
20 25 30  
Thr Leu Gly Pro Trp Arg Ala Glu Val Ile Asp Asp Leu Arg Ile Leu  
35 40 45  
Glu Ala Asp Leu Glu Gln Arg Thr Ile Glu Gly Asn Thr Val Val Ile  
50 55 60  
Gln Asp Ala Gly Gln Glu Gly Leu Ser Tyr Leu Val  
65 70 75

<210> 57

<211> 101

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 3662 right: 3964 frame: 3 size(aa): 101

<400> 57

Leu Ser Pro Ser Trp Pro Ala Ser Trp Met Thr Thr Val Leu Pro Ser  
1 5 10 15  
Met Val Arg Cys Ser Arg Ser Ala Ser Arg Met Arg Arg Ser Ser Ile  
20 25 30  
Thr Ser Ala Arg Gln Gly Pro Arg Val Arg Pro Ala Ser Ala Asn Trp  
35 40 45  
Val Trp Met Val Ser Met Val Trp Lys Arg Trp Gly Arg Leu Gly Pro  
50 55 60  
Arg Thr Thr Ile Lys Thr Arg Gly Ile Gln Leu Arg Asn Thr Pro Gly  
65 70 75 80  
Leu Val Ser Pro Pro Gly Arg Arg Arg Pro Pro Gly Ser Arg Arg Arg  
85 90 95  
Arg Arg Ser Ser Arg  
100

<210> 58

<211> 250

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 3693 right: 4442 frame: 1 size(aa): 250

<400> 58

Arg Arg Cys Cys Pro Arg Trp Cys Ala Ala Arg Gly Arg Pro Arg Gly  
1 5 10 15

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Cys Ala Gly Arg Arg Leu Pro Gln Pro Ala Arg Gly Gln Gly Leu Gly  
 20 25 30  
 Arg Leu Arg Arg Thr Gly Cys Gly Trp Cys Pro Trp Phe Gly Ser Gly  
 35 40 45  
 Gly Gly Ala Ser Ala Pro Val Gln Leu Leu Lys His Gly Gly Phe Ser  
 50 55 60  
 Cys Ala Ile Pro Arg Gly Trp Ser Ala Arg Gln Val Gly Glu Gly Leu  
 65 70 75 80  
 Pro Asp Leu Gly Val Val Asp Asp Leu Leu Gly Glu Gly Ala Gln Val  
 85 90 95  
 Val Leu Leu Ala Glu Gly His Gly Leu Leu Asp Leu Val Tyr Gly Ala  
 100 105 110  
 Arg Asp Arg Val Val Ala Gly Arg Ala Glu Gly Pro Leu Asp Leu Gly  
 115 120 125  
 Ala Thr Ala Gly Glu Asp Leu Gly Leu Asp Leu Ala Gly Asp Gly Gly  
 130 135 140  
 Glu Gly Gly Ala Val His Gly Val Leu Cys Gly Val Tyr Leu Leu Lys  
 145 150 155 160  
 His Gly Gly Leu Arg Gly Ala Ile Arg Leu Gly Pro Gly Gln Asp Leu  
 165 170 175  
 Gly Pro Val Ala His Glu His His Pro Leu Leu Ala Pro Leu Gly Leu  
 180 185 190  
 Val Glu Gly Gly Ala Val Gly His Thr Val Gly Asp Pro Asp Val Val  
 195 200 205  
 Asp Arg Gly Pro Ala Ala Ala Leu Ala Pro Ala Met Leu Thr Ile Glu  
 210 215 220  
 Val His Leu Ser Gly Ala Val Gly Ala Pro Val Leu Ala Ala Leu Gly  
 225 230 235 240  
 Asp Gly His Pro Gly Gly Leu Glu Gly Ala  
 245 250

<210> 59

<211> 249

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 3764 right: 4510 frame: -3 size(aa): 249

<400> 59

Ala Pro Pro Gly Pro Gly Arg Gly Pro Ser Leu Val Pro Pro His Pro  
 1 5 10 15  
 Asp Thr Pro Trp Pro Ser Tyr Ala Pro Ser Arg Pro Pro Gly Trp Pro  
 20 25 30  
 Ser Pro Ser Ala Ala Ser Thr Gly Ala Pro Thr Ala Pro Leu Arg Cys  
 35 40 45  
 Thr Ser Ile Val Ser Met Ala Gly Ala Arg Ala Ala Ala Gly Pro Arg  
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50                      55                      60  
 Ser Thr Thr Ser Gly Ser Pro Thr Val Cys Pro Thr Ala Pro Pro Ser  
 65                      70                      75                      80  
 Thr Ser Pro Ser Gly Ala Arg Ser Gly Trp Cys Ser Trp Ala Thr Gly  
                     85                      90                      95  
 Pro Arg Ser Trp Pro Gly Pro Arg Arg Ile Ala Pro Arg Asn Pro Pro  
                     100                      105                      110  
 Cys Phe Asn Arg Tyr Thr Pro His Arg Thr Pro Trp Thr Ala Pro Pro  
                     115                      120                      125  
 Ser Pro Pro Ser Pro Ala Arg Ser Arg Pro Arg Ser Ser Pro Ala Val  
                     130                      135                      140  
 Ala Pro Arg Ser Ser Gly Pro Ser Ala Arg Pro Ala Thr Thr Arg Ser  
 145                      150                      155                      160  
 Leu Ala Pro Tyr Thr Arg Ser Arg Arg Pro Trp Pro Ser Ala Arg Ser  
                     165                      170                      175  
 Thr Thr Trp Ala Pro Ser Pro Arg Arg Ser Ser Thr Thr Pro Arg Ser  
                     180                      185                      190  
 Gly Arg Pro Ser Pro Thr Trp Arg Ala Asp Gln Pro Arg Gly Ile Ala  
                     195                      200                      205  
 Gln Leu Asn Pro Pro Cys Phe Asn Ser Cys Thr Gly Ala Glu Ala Pro  
                     210                      215                      220  
 Pro Pro Leu Pro Asn His Gly His His Pro His Pro Val Arg Arg Ser  
 225                      230                      235                      240  
 Arg Pro Asn Pro Trp Pro Leu Ala Gly  
                     245

&lt;210&gt; 60

&lt;211&gt; 222

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 3883 right: 4548 frame: -2 size(aa): 222

&lt;400&gt; 60

Pro Thr Pro Ala Arg Pro Arg Trp Arg Pro Ala Ala Glu Pro Leu Arg  
 1                      5                      10                      15  
 Ala Pro Gly Gly Ala Pro His Ser Ser His Pro Thr Pro Thr Pro His  
                     20                      25                      30  
 Gly Gln Val Thr His Pro Pro Gly Arg Pro Asp Gly His Leu Pro Val  
                     35                      40                      45  
 Pro Gln Ala Pro Gly Arg Gln Arg Pro Arg Ser Gly Ala Leu Arg Ser  
                     50                      55                      60  
 Ser Ala Trp Pro Ala Pro Gly Gln Gln Pro Gly Pro Asp Leu Pro Arg  
 65                      70                      75                      80  
 Pro Gly Arg Arg Arg Tyr Ala Leu Arg His Pro Pro Arg Pro Ala Pro  
                     85                      90                      95

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Val Gly Arg Gly Ala Gly Gly Val Arg Gly Gln Pro Gly Arg Asp Pro  
 100 105 110  
 Gly Leu Gly Arg Gly Val Leu Arg Leu Val Ile Arg Arg Ala Leu Ile  
 115 120 125  
 Gly Ile His Arg Thr Gly Pro His Gly Pro Arg His Pro Pro Arg His  
 130 135 140  
 Arg Pro Pro Asp Arg Gly Pro Asp Pro Arg Arg Leu Trp Arg Pro Asp  
 145 150 155 160  
 Arg Val Asp Leu Pro Leu Asp Leu Pro Leu His Asp Leu Trp Pro His  
 165 170 175  
 Ile Pro Gly Pro Gly Gly Arg Gly Leu Leu Pro Gly Ala Gln Pro Gly  
 180 185 190  
 His Pro His Arg Glu Asp Arg Leu Arg Arg Arg Asp Pro Gly Gly Leu  
 195 200 205  
 Arg Leu Pro Gly Gly Leu Thr Ser Pro Gly Val Leu Arg Ser  
 210 215 220

<210> 61

<211> 85

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 3909 right: 4163 frame: -1 size(aa): 85

<400> 61

Val Tyr Thr Ala Gln Asp Pro Met Asp Arg Ala Thr Leu Pro Ala Ile  
 1 5 10 15  
 Ala Arg Gln Ile Glu Ala Gln Ile Leu Ala Gly Cys Gly Ala Gln Ile  
 20 25 30  
 Glu Trp Thr Phe Arg Ser Thr Cys His Tyr Thr Ile Ser Gly Pro Ile  
 35 40 45  
 Tyr Gln Val Gln Glu Ala Val Ala Phe Cys Gln Glu His Asn Leu Gly  
 50 55 60  
 Thr Leu Thr Glu Lys Ile Val Tyr Asp Ala Glu Ile Arg Glu Ala Phe  
 65 70 75 80  
 Ala Tyr Leu Ala Gly  
 85

<210> 62

<211> 171

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 3968 right: 4480 frame: 3 size(aa): 171

<400> 62

Gly Cys Pro Gly Cys Ala Pro Gly Arg Arg Pro Arg Pro Pro Gly Pro  
 1 5 10 15



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Gly Ile Trp Gly Gln Arg Ser Cys Ser Gly Arg Ser Ser Gly Arg Ser  
 20 25 30  
 Thr Arg Ser Gly Arg His Ser Arg Arg Gly Ser Gly Pro Arg Ser Gly  
 35 40 45  
 Gly Arg Trp Arg Gly Gly Trp Arg Gly Pro Trp Gly Pro Val Arg Cys  
 50 55 60  
 Ile Pro Ile Lys Ala Arg Arg Ile Thr Arg Arg Asn Thr Pro Arg Pro  
 65 70 75 80  
 Arg Pro Gly Ser Arg Pro Gly Cys Pro Arg Thr Pro Pro Ala Pro Arg  
 85 90 95  
 Pro Thr Gly Ala Gly Arg Gly Gly Cys Arg Arg Ala Tyr Arg Arg Arg  
 100 105 110  
 Pro Gly Arg Gly Arg Ser Gly Pro Gly Cys Cys Pro Gly Ala Gly His  
 115 120 125  
 Ala Asp Asp Arg Ser Ala Pro Glu Arg Gly Arg Trp Arg Pro Gly Ala  
 130 135 140  
 Cys Gly Thr Gly Arg Trp Pro Ser Gly Arg Pro Gly Gly Cys Val Thr  
 145 150 155 160  
 Trp Pro Trp Gly Val Gly Val Gly Trp Asp Glu  
 165 170

<210> 63  
 <211> 170  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 4185 right: 4694 frame: -1 size(aa): 170

<400> 63

Ala Ala Gly Arg Gly Pro Trp Cys His Ala Arg His Arg Pro Ala His  
 1 5 10 15  
 Pro Pro His Arg Gly Ala Pro Pro Asp Gln Pro Gln Glu Gly Arg Pro  
 20 25 30  
 Pro Gly His His Arg Gly His Pro Gln Val Ala Pro Gly Ala Gly Ala  
 35 40 45  
 Asp Arg Arg Arg Gln Gly Pro Asp Gly Gly Arg Pro Leu Ser Pro Ser  
 50 55 60  
 Gly Pro Arg Glu Gly Pro Leu Thr Arg Pro Thr Pro Pro Arg His Pro  
 65 70 75 80  
 Met Ala Lys Leu Arg Thr Leu Gln Ala Ala Arg Met Ala Ile Ser Gln  
 85 90 95  
 Cys Arg Lys His Arg Gly Ala Asn Gly Pro Ala Gln Val His Phe Asp  
 100 105 110  
 Arg Gln His Gly Arg Arg Gln Gly Ser Ser Arg Ala Pro Ile Tyr His  
 115 120 125  
 Val Arg Val Ala Asp Gly Met Pro Tyr Gly Thr Pro Leu Asp Gln Pro  
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130 135 140  
 Gln Trp Gly Glu Glu Arg Val Val Phe Val Gly Asn Arg Ala Glu Ile  
 145 150 155 160

Leu Ala Trp Ala Glu Ala Tyr Cys Ala Ser  
 165 170

<210> 64  
 <211> 79  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 4375 right: 4611 frame: 2 size(aa): 79

<400> 64

Ala Gly Pro Leu Ala Pro Arg Cys Leu Arg His Trp Glu Met Ala Ile  
 1 5 10 15

Arg Ala Ala Trp Arg Val Arg Asn Leu Ala Met Gly Cys Arg Gly Gly  
 20 25 30

Val Gly Arg Val Arg Gly Pro Ser Arg Gly Pro Glu Gly Leu Ser Gly  
 35 40 45

Arg Pro Pro Ser Gly Pro Cys Arg Arg Arg Ser Ala Pro Ala Pro Gly  
 50 55 60

Ala Thr Cys Gly Cys Pro Arg Trp Trp Pro Gly Gly Arg Pro Ser  
 65 70 75

<210> 65  
 <211> 90  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 4446 right: 4715 frame: 1 size(aa): 90

<400> 65

Leu Gly His Gly Val Ser Gly Trp Gly Gly Thr Ser Glu Gly Pro Leu  
 1 5 10 15

Pro Gly Pro Gly Gly Ala Gln Arg Pro Ala Ala Ile Trp Ala Leu Pro  
 20 25 30

Ala Ser Val Ser Thr Ser Thr Arg Cys Asp Leu Arg Val Pro Ser Met  
 35 40 45

Val Ala Arg Arg Pro Ala Phe Leu Arg Leu Val Arg Arg Gly Ala Ser  
 50 55 60

Val Arg Gly Met Cys Arg Thr Val Pro Ser Met Ala Pro Arg Pro Ser  
 65 70 75 80

Pro Cys Cys Ser Ile Thr Arg Pro Thr Leu  
 85 90

<210> 66  
 <211> 442  
 <212> PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 4484 right: 5809 frame: 3 size(aa): 442

&lt;400&gt; 66

Gly Ala Pro Pro Gly Ala Arg Arg Gly Ser Ala Ala Gly Arg His Leu  
 1 5 10 15  
 Gly Leu Ala Gly Val Gly Gln His Gln His Pro Val Arg Leu Ala Gly  
 20 25 30  
 Ala Leu Asp Gly Gly Gln Glu Ala Gly Leu Leu Glu Val Gly Gln Ala  
 35 40 45  
 Gly Arg Leu Gly Glu Gly Asp Val Gln Asp Gly Ala Glu His Gly Thr  
 50 55 60  
 Thr Ala Leu Ala Leu Leu Leu Asn His Gln Ala Asp Pro Val Glu Gln  
 65 70 75 80  
 Arg Leu Gly Gly Val Val Glu Gly Val Pro Gly Glu Ala Gly Pro Leu  
 85 90 95  
 Gly Leu Ala Gly Leu Arg Gly Val Glu Ala Gly Leu Gly Gly Ser Gly  
 100 105 110  
 Ala Ala Ala Gly Gly Gly Val His Pro Val Val Gly Gly Gly Leu Gly  
 115 120 125  
 Asp Gly Leu Gly Gly Pro Leu Leu Gly Gly Gly Gly Gly His Ala Leu  
 130 135 140  
 Gly Asp Gly Gly Leu Leu Gly Asp Gly Leu Gly Asp Asp Gly Leu Gly  
 145 150 155 160  
 Leu Gly Gln Ala Asp Pro Leu Ala Val Ala Val Glu Val Ala Ala Gly  
 165 170 175  
 Gly Ala Gly Tyr Ala Ala Val Leu Asp Val Leu Leu Ala Val Phe Gly  
 180 185 190  
 Gly Gln Asn Gly Phe Val Glu Gly Gly Gly Gly Gly Glu Glu Val Arg  
 195 200 205  
 His Arg Arg Gly Gly Gly Gly Val Gly Leu Val Pro Pro Asp Cys Trp  
 210 215 220  
 Gly Leu Val Gly Ala Trp Val Ala Pro Gly Ala Pro Gly Leu Leu Gly  
 225 230 235 240  
 Ala Gly Arg Gly Trp Thr Ala Ala Pro Gly Arg Arg Val Gly Gly Ala  
 245 250 255  
 Ile Gly Gly Leu Ser Leu Pro Pro Cys Ile Thr Ile Lys Ala Arg Arg  
 260 265 270  
 Leu Cys Leu Arg Asn Pro Leu His Ser His Phe Thr Asp Cys His Thr  
 275 280 285  
 Ser Gly Leu Ala Thr Ala Ala Glu Leu Val Pro Val Gly Val Gly Leu  
 290 295 300  
 Val Leu Val Pro Pro Leu Gly Asp Gly Val Pro Pro Ala His Ala Leu  
 305 310 315 320

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Gly Gly Leu Ala Gly Ile Pro Ser Arg Pro Pro Glu Leu Val Val Gly  
 325 330  
 His Arg Pro Gly Leu Gly Leu Pro Ala Gly Glu Val Gly Ser Gly Gly  
 340 345 350  
 Met Val Gly Ala Gly His Gly Arg Gly Gly Gly Gly Glu Gly Gly  
 355 360 365  
 Trp Ala Arg Gly Ala Pro Gly Gly Gly Ser Gly Arg Gln Gln Val Val  
 370 375 380  
 Pro Ala Asp Arg Gly Gln Asp Val Pro Leu Gly Asn Leu Asp Glu Gly  
 385 390 395 400  
 Leu Val Ala Glu Leu Gly Ile Pro Asp Pro Glu Leu Gly Arg Gly Gly  
 405 410 415  
 Val Gly Ala Pro Val Ala Gly Gly Ala Gly Gln Pro His Gln Glu Leu  
 420 425 430  
 Asp Arg Ala Arg Pro Gly Gln Val Pro Val  
 435 440

<210> 67

<211> 367

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 4514 right: 5614 frame: -3 size(aa): 367

<400> 67

Ala Ala Pro Arg Arg Pro Pro Gly Pro Ser Pro Leu Pro Pro Thr Ala  
 1 5 10 15  
 Thr Pro Thr Met Ser Cys Ala His His Ala Thr Ala Ala Asp Phe Ala  
 20 25 30  
 Arg Trp Glu Ala Lys Ala Arg Ser Met Thr Asp Tyr Glu Leu Trp Trp  
 35 40 45  
 Ser Ala Arg Asp Ala Arg Gln Ala Ala Glu Arg Met Arg Gly Trp Asn  
 50 55 60  
 Pro Val Ala Glu Gly Arg Tyr Glu Asp Glu Ala His Thr Tyr Gly Asp  
 65 70 75 80  
 Glu Leu Arg Arg Arg Arg Gln Ala Arg Ser Val Thr Val Cys Glu Val  
 85 90 95  
 Ala Met Gln Gly Ile Ala Gln Ala Gln Pro Pro Cys Phe Asn Ser Tyr  
 100 105 110  
 Thr Arg Gly Glu Arg Gln Pro Pro Asp Gly Ala Thr His Ala Pro Thr  
 115 120 125  
 Arg Gly Ser Ser Pro Ala Pro Thr Arg Pro Gln Gln Ser Gly Gly Thr  
 130 135 140  
 Arg Arg His Pro Arg Ala Asp Gln Pro Pro Ala Val Arg Gly His Gln  
 145 150 155 160  
 Pro His Pro Thr Ala Thr Pro Pro Met Ser Asp Phe Phe Pro Thr Pro

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170

165

175

Thr Thr Leu Asp Glu Ala Val Leu Ala Ala Glu Tyr Ser Gln Gln Asn  
180 185 190  
Val Glu Tyr Cys Gly Ile Thr Cys Thr Pro Ser Gly Tyr Phe Tyr Cys  
195 200 205  
His Gly Lys Arg Ile Gly Leu Ala Lys Ala Glu Ala Ile Val Ala Gln  
210 215 220  
Ala Val Ala Glu Glu Ala Ala Val Ala Glu Gly Met Thr Ala Ala Thr  
225 230 235  
Ala Glu Gln Arg Ala Thr Gln Thr Ile Ser Glu Ala Ala Ala Asp His  
245 250 255  
Arg Val Asp Pro Ala Ala Gly Cys Arg Thr Ala Ala Pro Gln Thr Gly  
260 265 270  
Leu Asp Thr Pro Glu Pro Arg Gln Pro Lys Arg Thr Gly Phe Thr Trp  
275 280 285  
Asp Ala Leu Asn Asp Ala Thr Lys Ala Leu Phe Tyr Arg Val Gly Leu  
290 295 300  
Val Ile Glu Gln Gln Gly Glu Gly Arg Gly Ala Met Leu Gly Thr Val  
305 310 315 320  
Leu His Ile Pro Leu Thr Glu Ala Pro Arg Leu Thr Asn Leu Lys Lys  
325 330 335  
Ala Gly Leu Leu Ala Thr Ile Glu Gly Thr Arg Lys Ser His Arg Val  
340 345 350  
Leu Val Leu Thr Asp Ala Gly Lys Ala Gln Met Ala Ala Gly Arg  
355 360 365

<210> 68

<211> 135

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 4698 right: 5102 frame: -1 size(aa): 135

<400> 68

Leu Leu Pro His Pro His His Pro Arg Arg Ser Arg Ser Gly Arg Arg  
1 5 10 15  
Ile Gln Pro Ala Glu Arg Arg Val Leu Arg His Asn Leu His Pro Gln  
20 25 30  
Arg Leu Leu Leu Leu Pro Arg Gln Ala Asp Arg Pro Gly Gln Gly Arg  
35 40 45  
Gly His Arg Arg Pro Gly Arg Arg Arg Gly Gly Arg Arg Arg Gly  
50 55 60  
His Asp Arg Arg His Arg Arg Ala Ala Gly His Pro Asp His Leu Arg  
65 70 75 80  
Gly Arg Arg Arg Pro Pro Gly Gly Pro Arg Arg Arg Leu Pro His Arg  
85 90 95

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Cys Pro Pro Asp Arg Pro Arg His Pro Gly Ala Pro Pro Ala Gln Ala  
100 105 110

Asp Arg Leu His Leu Gly Arg Pro Gln Arg Arg His Gln Gly Ala Val  
115 120 125

Leu Gln Gly Arg Pro Gly Asp  
130 135

<210> 69

<211> 68

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 4702 right: 4905 frame: -2 size(aa): 68

<400> 69

Pro Pro Pro Pro Ser Ser Gly Pro Pro Arg Pro Ser Pro Arg Pro  
1 5 10 15

Pro Pro Thr Thr Gly Trp Thr Pro Pro Ala Ala Ala Pro Leu Pro  
20 25 30

Pro Arg Pro Ala Ser Thr Pro Arg Ser Pro Ala Ser Pro Ser Gly Pro  
35 40 45

Ala Ser Pro Gly Thr Pro Ser Thr Thr Pro Pro Arg Arg Cys Ser Thr  
50 55 60

Gly Ser Ala Trp  
65

<210> 70

<211> 92

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 4719 right: 4994 frame: 1 size(aa): 92

<400> 70

Asn Ser Ala Leu Val Ala Ser Leu Arg Ala Ser Gln Val Lys Pro Val  
1 5 10 15

Arg Leu Gly Trp Arg Gly Ser Gly Val Ser Arg Pro Val Trp Gly Ala  
20 25 30

Ala Val Arg Gln Pro Ala Ala Gly Ser Thr Arg Trp Ser Ala Ala Ala  
35 40 45

Ser Glu Met Val Trp Val Ala Arg Cys Ser Ala Val Ala Ala Val Met  
50 55 60

Pro Ser Ala Thr Ala Ala Ser Ser Ala Thr Ala Trp Ala Thr Met Ala  
65 70 75 80

Ser Ala Leu Ala Arg Pro Ile Arg Leu Pro Trp Gln  
85 90

<210> 71

<211> 176

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 4759 right: 5286 frame: 2 size(aa): 176

&lt;400&gt; 71

Ser Arg Ser Ala Trp Ala Gly Gly Ala Pro Gly Cys Arg Gly Arg Ser  
 1 5 10 15  
 Gly Gly Gln Arg Cys Gly Ser Arg Arg Gly Pro Pro Gly Gly Arg  
 20 25 30  
 Arg Arg Pro Arg Arg Trp Ser Gly Trp Pro Ala Ala Arg Arg Trp Arg  
 35 40 45  
 Arg Ser Cys Pro Arg Arg Arg Arg Pro Pro Arg Arg Arg Pro Gly Arg  
 50 55 60  
 Arg Trp Pro Arg Pro Trp Pro Gly Arg Ser Ala Cys Arg Gly Ser Arg  
 65 70 75 80  
 Ser Ser Arg Trp Gly Cys Arg Leu Cys Arg Ser Thr Arg Arg Ser Ala  
 85 90 95  
 Gly Cys Ile Arg Arg Pro Glu Arg Leu Arg Arg Gly Trp Trp Gly Trp  
 100 105 110  
 Gly Arg Ser Gln Thr Ser Glu Gly Trp Arg Trp Gly Gly Val Gly Ala  
 115 120 125  
 Pro Gly Leu Leu Gly Ala Gly Arg Arg Val Gly Gly Ala Trp Cys Pro  
 130 135 140  
 Arg Thr Ala Gly Gly Gly Ser Gly Leu Asp Cys Cys Pro Trp Ser Ala  
 145 150 155 160  
 Arg Gly Trp Arg His Arg Gly Val Val Ser Pro Pro Leu Tyr Asn Tyr  
 165 170 175

&lt;210&gt; 72

&lt;211&gt; 92

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 5004 right: 5279 frame: 1 size(aa): 92

&lt;400&gt; 72

Pro Leu Gly Val Gln Val Met Pro Gln Tyr Ser Thr Phe Cys Trp Leu  
 1 5 10 15  
 Tyr Ser Ala Ala Arg Thr Ala Ser Ser Arg Val Val Gly Val Gly Lys  
 20 25 30  
 Lys Ser Asp Ile Gly Gly Val Ala Val Gly Trp Gly Trp Cys Pro Arg  
 35 40 45  
 Thr Ala Gly Gly Trp Ser Ala Arg Gly Trp Arg Leu Val Pro Pro Asp  
 50 55 60  
 Cys Trp Gly Arg Val Gly Ala Gly Leu Leu Pro Leu Val Gly Ala Trp  
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65                               70          2610895ST25.txt
                               75                               80
Val Ala Pro Ser Gly Gly Cys Leu Ser Pro Leu Val
                        85                               90

<210> 73
<211> 106
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 5023 right: 5340 frame: -2 size(aa): 106

```

<400> 73

Gln 1	Ser	Val	Lys	Trp 5	Leu	Cys	Arg	Gly	Leu 10	Arg	Arg	His	Ser	Arg 15	Arg
Ala	Leu	Ile	Val 20	Ile	Gln	Gly	Gly	Arg 25	Asp	Asn	Pro	Pro	Met 30	Ala	Pro
Pro	Thr	Arg 35	Arg	Pro	Gly	Ala	Ala 40	Val	Gln	Pro	Arg	Pro 45	Ala	Pro	Ser
Ser	Pro 50	Gly	Ala	Pro	Gly	Ala 55	Thr	His	Ala	Pro	Thr 60	Ser	Pro	Gln	Gln
Ser 65	Gly	Gly	Thr	Asn	Pro 70	Thr	Pro	Pro	Pro	Pro 75	Leu	Arg	Cys	Leu	Thr 80
Ser	Ser	Pro	Pro	Pro 85	Pro	Pro	Ser	Thr	Lys 90	Pro	Phe	Trp	Pro	Pro 95	Asn
Thr	Ala	Ser	Arg 100	Thr	Ser	Ser	Thr	Ala	Ala 105						

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<210> 74
<211> 59
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 5106 right: 5282 frame: -1 size(aa): 59

```

<400> 74  
Leu Tyr Lys Gly Gly Glu Thr Thr Pro Arg Trp Arg His Pro Arg Ala  
1 5 10 15  
Asp Gln Gly Gln Gln Ser Ser Pro Asp Pro Pro Pro Ala Val Arg Gly  
20 25 30  
His Gln Ala Pro Pro Thr Arg Arg Pro Ala Pro Ser Ser Pro Gly Ala  
35 40 45  
Pro Thr Pro Pro His Arg His Pro Ser Asp Val  
50 55

<210>	75
<211>	174
<212>	PRT
<213>	Cyanophage S-2L

**<220>**



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&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 5326 right: 5847 frame: 2 size(aa): 174

&lt;400&gt; 75

Pro Leu His Arg Leu Ser His Phe Gly Pro Gly Asp Gly Gly Gly Ala  
 1 5 10 15  
 Arg Pro Arg Arg Cys Gly Pro Arg Pro Arg Thr Ala Pro Arg Arg Arg  
 20 25 30  
 Gly Ser Thr Arg Ala Cys Ala Arg Arg Pro Gly Gly His Pro Glu Pro  
 35 40 45  
 Thr Thr Arg Ala Arg Ser Arg Ser Ser Thr Gly Pro Trp Pro Pro Ser  
 50 55 60  
 Gly Arg Ser Arg Gln Arg Trp His Gly Gly Arg Arg Thr Trp Ser Gly  
 65 70 75 80  
 Trp Arg Trp Gly Gly Gly Gly Met Gly Pro Gly Gly Ala Gly Gly Arg  
 85 90 95  
 Leu Arg Pro Ala Ala Gly Arg Pro Gly Arg Ser Gly Ser Gly Arg Pro  
 100 105 110  
 Ala Trp Gln Pro Arg Arg Gly Ser Arg Gly Arg Ala Trp His Ser Arg  
 115 120 125  
 Pro Gly Thr Trp Pro Arg Trp Cys Gly Arg Pro Ser Ser Arg Gly Cys  
 130 135 140  
 Gly Thr Ala Thr Pro Gly Ala Arg Pro Ser Ser Thr Arg Ser Gly Pro  
 145 150 155 160  
 Gly Leu Glu Pro Ala Pro Arg Gly Trp Pro Trp Ala Gly Arg  
 165 170

&lt;210&gt; 76

&lt;211&gt; 186

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 5334 right: 5891 frame: -1 size(aa): 186

&lt;400&gt; 76

Ser Ala Gly Arg Ser Arg Gln Pro Gly Gly Gly Leu Tyr Arg Gln Arg  
 1 5 10 15  
 Pro Ala His Gly His Pro Arg Gly Ala Gly Ser Lys Pro Gly Pro Asp  
 20 25 30  
 Leu Val Glu Leu Gly Arg Ala Pro Gly Val Ala Val Pro His Pro Arg  
 35 40 45  
 Leu Leu Gly Arg Pro His His Leu Gly Gln Val Pro Gly Leu Glu Cys  
 50 55 60  
 Gln Ala Arg Pro Arg Asp Pro Arg Arg Gly Cys Gln Ala Gly Arg Pro  
 65 70 75 80  
 Asp Pro Asp Leu Pro Gly Arg Pro Ala Ala Gly Leu Ser Arg Pro Pro  
 85 90 95

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Ala Pro Pro Gly Pro Ile Pro Pro Pro His Arg His Pro Asp His  
 100 105 110  
 Val Leu Arg Pro Pro Cys His Arg Cys Arg Leu Arg Pro Leu Gly Gly  
 115 120 125  
 Gln Gly Pro Val Asp Asp Arg Leu Arg Ala Leu Val Val Gly Ser Gly  
 130 135 140  
 Cys Pro Pro Gly Arg Arg Ala His Ala Arg Val Glu Pro Arg Arg Arg  
 145 150 155 160  
 Gly Ala Val Arg Gly Arg Gly Pro His Leu Arg Gly Arg Ala Pro Pro  
 165 170 175  
 Pro Ser Pro Gly Pro Lys Cys Asp Ser Leu  
 180 185

<210> 77  
 <211> 86  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 5487 right: 5744 frame: 1 size(aa): 86

<400> 77  
 Ser Val Ile Asp Arg Ala Leu Ala Ser Gln Arg Ala Lys Ser Ala Ala  
 1 5 10 15  
 Val Ala Trp Trp Ala Gln Asp Met Val Gly Val Ala Val Gly Gly Arg  
 20 25 30  
 Gly Asp Gly Pro Gly Gly Arg Arg Gly Ala Ala Gln Ala Gly Ser Arg  
 35 40 45  
 Ser Ser Arg Gln Ile Gly Val Arg Thr Ser Arg Leu Ala Thr Ser Thr  
 50 55 60  
 Arg Val Ser Trp Pro Ser Leu Ala Phe Gln Thr Arg Asn Leu Ala Glu  
 65 70 75 80  
 Val Val Trp Ala Pro Gln  
 85

<210> 78  
 <211> 52  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 5494 right: 5649 frame: -2 size(aa): 52

<400> 78  
 Pro Arg Ser Ala Gly Thr Thr Cys Cys Arg Pro Glu Pro Pro Pro Gly  
 1 5 10 15  
 Ala Pro Arg Ala His Pro Pro Ser Pro Pro Pro Pro Arg Pro Cys  
 20 25 30  
 Pro Ala Pro Thr Met Pro Pro Leu Pro Thr Ser Pro Ala Gly Arg Pro  
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35

40

45

Arg Pro Gly Arg  
50

&lt;210&gt; 79

&lt;211&gt; 153

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 5618 right: 6076 frame: -3 size(aa): 153

&lt;400&gt; 79

Pro Thr Arg Ala Gly Pro Ser Gly Pro Pro Thr Pro Gly Pro Thr Trp  
1 5 10 15

Ala Asp Ser Pro Gly Gly Phe Gly Pro His Pro Asp Pro Gly Arg Ile  
20 25 30

Ala Ser Gly Val Phe Pro Cys Phe Asn Ser Gly Thr Gly Ala Glu Cys  
35 40 45

Pro Thr Arg Arg Pro Arg Gly Arg Ser Ser Arg Glu Ser Asp Gln Leu  
50 55 60

Asp Glu Val Gly Asn Arg Val Ala Gly Phe Thr Val Asn Gly Gln Pro  
65 70 75 80

Met Ala Thr His Glu Val Arg Ala Leu Asn Arg Asp Leu Thr Trp Ser  
85 90 95

Ser Ser Val Glu Leu Leu Val Trp Leu Ser Arg Thr Pro Gly Tyr Trp  
100 105 110

Gly Ala His Thr Thr Ser Ala Lys Phe Arg Val Trp Asn Ala Lys Leu  
115 120 125

Gly His Glu Thr Leu Val Glu Val Ala Lys Arg Asp Val Leu Thr Pro  
130 135 140

Ile Cys Arg Asp Asp Leu Leu Pro Ala  
145 150

&lt;210&gt; 80

&lt;211&gt; 218

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 5812 right: 6465 frame: -2 size(aa): 218

&lt;400&gt; 80

His Pro Arg Trp Trp Leu Arg Cys Glu Gly Ser Pro Lys Arg Pro Ile  
1 5 10 15

Gln His Arg Arg His Pro Leu His Arg Gly Gly Arg Pro Arg Pro His  
20 25 30

Pro Val Gln Thr Arg Ser Pro His Asp Arg Ser His Arg Gln Ala Asp  
35 40 45

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Gln Arg Ala Gln Ala His Arg Val Leu Leu Arg Cys Pro Glu Ser Gly  
 50 55 60  
 Asp Gln Gly Pro Val Leu Pro Pro Leu Arg Gly Asp Pro Asp Arg His  
 65 70 75 80  
 Pro Gly Pro Arg His Asp Cys Arg Arg Pro Pro Gly His Arg Arg Gln  
 85 90 95  
 Gly Ala Pro Asp Arg Arg Pro Pro Pro Asp Gln Pro Gln Glu Gly Gly  
 100 105 110  
 Pro Pro Gly Asp Arg Arg Gly Arg Glu Glu Val Pro Gln Asp Ala Pro  
 115 120 125  
 Pro Asp Arg Arg Gly Pro Gly His Leu Gly Arg Pro His Arg Gly Arg  
 130 135 140  
 Pro Gly Leu Ile His Pro Gly Ala Ser Ala Pro Ile Pro Thr Pro Gly  
 145 150 155 160  
 Val Leu Arg Pro Gly Phe Phe Arg Ala Leu Ile Val Glu Gln Gly Arg  
 165 170 175  
 Asn Ala Pro Leu Asp Gly Pro Gly Ala Ala Pro Leu Val Asn Leu Ile  
 180 185 190  
 Ser Trp Thr Lys Ser Ala Thr Gly Trp Arg Ala Leu Pro Ser Thr Ala  
 195 200 205  
 Ser Pro Trp Pro Pro Thr Arg Cys Gly Leu  
 210 215

<210> 81

<211> 69

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 5813 right: 6019 frame: 3 size(aa): 69

<400> 81

Ser Pro His Leu Val Gly Gly His Gly Leu Ala Val Asp Gly Lys Ala  
 1 5 10 15  
 Arg His Pro Val Ala Asp Phe Val Gln Leu Ile Arg Phe Thr Arg Gly  
 20 25 30  
 Ala Ala Pro Gly Pro Ser Ser Gly Ala Phe Arg Pro Cys Ser Thr Ile  
 35 40 45  
 Lys Ala Arg Lys Asn Pro Gly Arg Asn Thr Pro Gly Val Gly Met Gly  
 50 55 60  
 Ala Glu Ala Pro Gly  
 65

<210> 82

<211> 353

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 5892 right: 6950 frame: 1 size(aa): 353

&lt;400&gt; 82

Ser Asp Ser Arg Glu Glu Arg Pro Leu Gly Arg Arg Val Gly His Ser  
 1 5 10 15  
 Ala Pro Val Pro Leu Leu Lys His Gly Lys Thr Pro Asp Ala Ile Arg  
 20 25 30  
 Pro Gly Ser Gly Trp Gly Pro Lys Pro Pro Gly Glu Ser Ala Gln Val  
 35 40 45  
 Gly Pro Gly Val Gly Gly Pro Asp Gly Pro Ala Leu Val Gly Gln Ala  
 50 55 60  
 Glu His Leu Val Gly Leu Leu Leu Ala Leu Asp Gly Leu Gln Glu Ala  
 65 70 75 80  
 Arg Leu Leu Glu Val Gly Gln Ala Gly Gly Val Gly Gln Gly His Leu  
 85 90 95  
 Asp Val Gly Ala Gln Ala Gly Gly Gly Ser His Ala Val Val Pro Gly  
 100 105 110  
 Gly Gly Leu Asp Leu Leu Ala Glu Ala Glu Glu Gln Val Leu Gly Arg  
 115 120 125  
 Leu Ile Gln Gly Ile Glu Gly Glu Pro Gly Ala Leu Gly Leu Phe Gly  
 130 135 140  
 Leu Leu Gly Gly Gly Phe Gly His Gly Gly Phe Glu Phe Gly Leu Asp  
 145 150 155 160  
 Val Gly Glu Gly Gly Leu Leu Gly Ala Thr Gly Ala Val Asp Ala Glu  
 165 170 175  
 Ser Ala Ala Trp Val Asn Leu His Thr Val Thr Thr Ser Gly Gly Val  
 180 185 190  
 Ile Ala Leu Gly Asp Gly Gly Pro Thr Leu Asp Glu Ile Gly Gly Leu  
 195 200 205  
 Asn Gly His Gly Trp Arg Gly Gly Gly Asp Arg Val Cys Leu Arg Ser  
 210 215 220  
 Thr Ser Lys Ala Arg Gly Leu Cys Pro Arg Asn Ser Pro Asn Arg Arg  
 225 230 235 240  
 Phe Thr Gly Cys Asn Lys Arg Pro Ala Pro Gly Gly Gly Pro Ala Ala  
 245 250 255  
 Ala Ala Gly Arg Arg Arg Arg Pro Ser Arg Arg Pro Pro Ala Ala Ala  
 260 265 270  
 Ala Pro Ala Arg Ala Pro Gly Pro Pro Pro His Lys Ala Gly Gly Thr  
 275 280 285  
 Gly Arg Gly Arg Ser Gln Ala Gly Ala Gly Arg Arg Pro Gln Thr Arg  
 290 295 300  
 Tyr His Pro Pro Ala Cys Ser Ala Trp Arg Arg Ser Thr Thr Pro Pro  
 305 310 315 320  
 Ser Arg Ala Trp Pro Pro Arg Arg Ala Arg Gly Pro Gly Ala Gln Ala  
 325 330 335  
 Gly Ala Leu Gln Asp Leu Leu Arg Val Pro Pro Ser Pro Ser Ala Ser  
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Val

<210> 83  
 <211> 106  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 5959 right: 6276 frame: 2 size(aa): 106

<400> 83

Ser Thr Glu Lys Pro Arg Thr Gln Tyr Ala Arg Gly Arg Asp Gly Gly  
 1 5 10 15  
 Arg Ser Pro Arg Val Asn Gln Pro Arg Ser Ala Pro Val Trp Ala Ala  
 20 25 30  
 Gln Met Ala Arg Pro Ser Ser Val Arg Arg Ser Ile Leu Trp Asp Phe  
 35 40 45  
 Phe Ser Pro Ser Thr Val Ser Arg Arg Pro Ala Phe Leu Arg Leu Val  
 50 55 60  
 Arg Arg Gly Ala Ser Val Arg Gly Thr Leu Thr Ser Val Pro Arg Arg  
 65 70 75 80  
 Ala Ala Ala Val Met Pro Trp Ser Arg Val Ala Val Trp Ile Ser Ser  
 85 90 95  
 Gln Arg Arg Lys Asn Arg Ser Leu Val Ala  
 100 105

<210> 84  
 <211> 185  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 6027 right: 6581 frame: -1 size(aa): 185

<400> 84

Pro Pro Cys Phe Thr Ser Gly Thr Glu Thr Asp Thr Ile Ser Thr Ala  
 1 5 10 15  
 Ser Pro Pro Met Thr Val Gln Pro Ala Asp Leu Ile Lys Arg Trp Thr  
 20 25 30  
 Thr Val Ala Gln Arg Asp Asn Thr Pro Ala Gly Gly Tyr Gly Val Lys  
 35 40 45  
 Val His Pro Ser Gly Arg Phe Ser Ile Asp Gly Thr Arg Cys Thr Glu  
 50 55 60  
 Glu Ala Ala Leu Ala His Ile Gln Ser Lys Leu Glu Ala Pro Met Thr  
 65 70 75 80  
 Glu Ala Thr Ala Lys Gln Thr Lys Glu Pro Lys Arg Thr Gly Phe Ser  
 85 90 95

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Phe Asp Ala Leu Asn Gln Ala Thr Lys Asp Leu Phe Phe Arg Leu Cys  
 100 105 110  
 Glu Glu Ile Gln Thr Ala Thr Arg Asp His Gly Met Thr Ala Ala Ala  
 115 120 125  
 Arg Leu Gly Thr Asp Val Lys Val Pro Leu Thr Asp Ala Pro Arg Leu  
 130 135 140  
 Thr Asn Leu Lys Lys Ala Gly Leu Leu Glu Thr Val Glu Gly Glu Lys  
 145 150 155 160  
 Lys Ser His Lys Met Leu Arg Leu Thr Asp Glu Gly Arg Ala Ile Trp  
 165 170 175  
 Ala Ala His Thr Gly Ala Asp Leu Gly  
 180 185

<210> 85

<211> 78

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 6182 right: 6415 frame: 3 size(aa): 78

<400> 85

Arg Arg Cys Pro Gly Gly Arg Arg Gln Ser Cys Arg Gly Pro Gly Trp  
 1 5 10 15  
 Arg Ser Gly Ser Pro Arg Arg Gly Gly Arg Thr Gly Pro Trp Ser Pro  
 20 25 30  
 Asp Ser Gly His Arg Arg Arg Thr Arg Cys Ala Trp Ala Leu Trp Ser  
 35 40 45  
 Ala Trp Arg Trp Leu Arg Ser Trp Gly Leu Arg Val Trp Thr Gly Cys  
 50 55 60  
 Gly Arg Gly Arg Pro Pro Arg Cys Asn Gly Cys Arg Arg Cys  
 65 70 75

<210> 86

<211> 51

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 6280 right: 6432 frame: 2 size(aa): 51

<400> 86

Phe Arg Ala Ser Lys Glu Asn Pro Val Arg Leu Gly Ser Leu Val Cys  
 1 5 10 15  
 Leu Ala Val Ala Ser Val Met Gly Ala Ser Ser Leu Asp Trp Met Trp  
 20 25 30  
 Ala Arg Ala Ala Ser Ser Val Gln Arg Val Pro Ser Met Leu Asn Arg  
 35 40 45  
 Pro Leu Gly  
 50

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<210> 87  
 <211> 147  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 6517 right: 6957 frame: 2 size(aa): 147

<400> 87

Thr Val Met Gly Gly Glu Ala Val Glu Ile Val Ser Val Ser Val Pro  
 1 5 10 15  
 Leu Val Lys His Gly Gly Tyr Ala Leu Ala Ile Pro Arg Ile Asp Gly  
 20 25 30  
 Ser Gln Ala Val Thr Asn Ala Leu Leu Pro Glu Ala Gly Pro Gln Pro  
 35 40 45  
 Leu Gln Val Gly Gly Gly Asp Leu Leu Ala Val Leu Gln Pro Leu Gln  
 50 55 60  
 His Arg Leu Glu Leu Arg Ala Arg Arg Leu Thr Lys Pro Ala Val Gln  
 65 70 75 80  
 Val Gly Val Gly Leu Arg Arg Gly Arg Gly Gly Gly Leu Lys Leu Ala  
 85 90 95  
 Thr Ile Leu Gln Leu Val Pro His Gly Ala Gly Arg Gln His His Arg  
 100 105 110  
 Ala Glu Pro Gly Pro His Asp Glu Leu Val Val Pro Ala Pro Arg Pro  
 115 120 125  
 Ala Arg Ser Arg Ile Cys Ser Gly Cys Arg Pro Arg His Arg Pro Leu  
 130 135 140  
 Cys Ser Arg  
 145

<210> 88  
 <211> 71  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 6524 right: 6736 frame: -3 size(aa): 71

<400> 88

Gly Gly Gly Pro Gly Ala Arg Ala Gly Ala Ala Ala Ala Gly Gly Arg  
 1 5 10 15  
 Arg Glu Gly Arg Arg Arg Arg Pro Ala Ala Ala Ala Gly Pro Pro Pro  
 20 25 30  
 Gly Ala Gly Arg Leu Leu Gln Pro Val Asn Arg Leu Phe Gly Glu Leu  
 35 40 45  
 Arg Gly His Ser Pro Arg Ala Leu Leu Val Glu Arg Arg Gln Thr Arg  
 50 55 60  
 Ser Pro Pro Pro Arg His Pro



65

70

<210> 89  
 <211> 126  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 6585 right: 6962 frame: -1 size(aa): 126

&lt;400&gt; 89

Ser Tyr Arg Leu His Arg Gly Arg Trp Arg Gly Arg His Pro Glu Gln  
 1 5 10 15  
 Ile Leu Glu Arg Ala Gly Leu Gly Ala Gly Thr Thr Ser Ser Ser Trp  
 20 25 30  
 Gly Pro Gly Ser Ala Arg Trp Cys Cys Arg Pro Ala Pro Cys Gly Thr  
 35 40 45  
 Ser Trp Arg Met Val Ala Ser Leu Arg Pro Pro Pro Arg Pro Arg Leu  
 50 55 60  
 Arg Pro Thr Pro Thr Cys Thr Ala Gly Phe Val Arg Arg Arg Ala Arg  
 65 70 75 80  
 Ser Ser Ser Arg Cys Cys Ser Gly Trp Arg Thr Ala Arg Arg Ser Pro  
 85 90 95  
 Pro Pro Thr Cys Ser Gly Cys Gly Pro Ala Ser Gly Ser Arg Ala Phe  
 100 105 110  
 Val Thr Ala Cys Glu Pro Ser Ile Arg Gly Ile Ala Arg Ala  
 115 120 125

<210> 90  
 <211> 122  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 6616 right: 6981 frame: -2 size(aa): 122

&lt;400&gt; 90

His Leu Arg Pro Lys Ile Ile Leu Pro Thr Thr Gln Arg Pro Met Ala  
 1 5 10 15  
 Arg Ala Ala Pro Gly Ala Asp Pro Gly Ala Arg Arg Pro Gly Arg Arg  
 20 25 30  
 Asp His Glu Leu Val Val Gly Ala Arg Leu Cys Ser Val Val Leu Ser  
 35 40 45  
 Thr Gly Ala Met Arg Asn Lys Leu Glu Asp Gly Ser Glu Phe Glu Ala  
 50 55 60  
 Ala Ala Pro Pro Pro Pro Glu Thr Asp Pro Asp Leu Tyr Arg Arg Leu  
 65 70 75 80  
 Cys Glu Ala Ala Gly Pro Glu Leu Glu Pro Val Leu Gln Arg Leu Glu  
 85 90 95

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Asp Gly Glu Lys Val Ala Ala Ala Asp Leu Gln Arg Leu Arg Ala Arg  
100 105 110

Leu Arg Glu Gln Gly Val Cys Tyr Ser Leu  
115 120

<210> 91  
<211> 248  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> New ORF = left: 6626 right: 7369 frame: 3 size(aa): 248

<400> 91

Gln Thr Pro Cys Ser Arg Arg Arg Ala Arg Ser Arg Cys Arg Ser Ala  
1 5 10 15  
Ala Ala Thr Phe Ser Pro Ser Ser Ser Arg Cys Ser Thr Gly Ser Ser  
20 25 30  
Ser Gly Pro Ala Ala Ser Gln Ser Arg Arg Tyr Arg Ser Gly Ser Val  
35 40 45  
Ser Gly Gly Gly Gly Ala Ala Ala Ser Asn Ser Leu Pro Ser Ser Ser  
50 55 60  
Leu Phe Arg Met Ala Pro Val Asp Asn Thr Thr Glu Gln Ser Leu Ala  
65 70 75 80  
Pro Thr Thr Ser Ser Trp Ser Arg Arg Pro Gly Arg Arg Ala Pro Gly  
85 90 95  
Ser Ala Pro Gly Ala Ala Leu Ala Ile Gly Leu Cys Val Val Gly Lys  
100 105 110  
Ile Ile Leu Gly Arg Lys Cys His Thr Asp Ala Ala Val Asp Lys Val  
115 120 125  
Asn His Thr Gly Asp Arg Phe Lys Asp Lys Thr His Pro Val Arg Ala  
130 135 140  
Phe Ile Val Thr Glu Ala Ala Asp Val Glu Leu Gly Gly Thr Leu Gln  
145 150 155 160  
Ala Asp Asp Pro Leu Leu Glu Gln Val Gly Val Arg Gln Gly Gly Ala  
165 170 175  
Val Glu Ser Pro Gly Val Val Pro Gly Asp Arg Cys Asp Gln Ala Gln  
180 185 190  
Val Ala Glu Asp Glu Pro Val Pro Ser Pro Ser Ala Gly Pro Asp Asp  
195 200 205  
Gly Arg Gly His Arg Leu Arg Val Ser Gln Pro Gly Leu Asp Pro Ala  
210 215 220  
Pro Gln Glu Asp Phe Leu Pro Ala Ser Glu Glu Gly Val Leu Pro Ser  
225 230 235 240  
Asp Val Glu Glu Gly Gln Val Val  
245

<210> 92  
<211> 203

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<212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 6806 right: 7414 frame: -3 size(aa): 203

<400> 92

Arg Cys Ala Met Val Ala Gln Pro Pro Arg Pro Thr Leu Val Ser Asp  
 1 5 10 15  
 Asp Leu Pro Phe Leu Asp Ile Ala Gly Lys Tyr Pro Leu Leu Thr Arg  
 20 25 30  
 Arg Glu Glu Ile Leu Leu Gly Arg Arg Ile Gln Ala Trp Leu Thr His  
 35 40 45  
 Pro Glu Pro Val Pro Pro Ala Ile Val Arg Ser Gly Arg Arg Ala Arg  
 50 55 60  
 Asp Arg Phe Val Leu Cys Asn Leu Arg Leu Val Ala Ser Ile Ala Arg  
 65 70 75 80  
 Tyr Tyr Thr Arg Arg Leu Asp Gly Thr Ser Leu Thr Tyr Ala Asp Leu  
 85 90 95  
 Leu Gln Glu Gly Val Ile Gly Leu Gln Arg Ser Ala Glu Leu Tyr Ile  
 100 105 110  
 Arg Ser Phe Cys Asn Asn Lys Cys Thr His Arg Met Cys Phe Ile Leu  
 115 120 125  
 Glu Ser Ile Thr Arg Val Ile Tyr Leu Ile His Gly Ser Ile Gly Met  
 130 135 140  
 Thr Leu Thr Ala Gln Asn Asn Leu Thr Asp Tyr Thr Glu Ala Asp Gly  
 145 150 155 160  
 Glu Gly Gly Thr Arg Ser Arg Ser Trp Ser Ala Pro Ala Trp Ala Pro  
 165 170 175  
 Gly Pro Arg Ala Arg Arg Gly Gly Gln Ala Leu Leu Gly Gly Val Val  
 180 185 190  
 Asp Arg Arg His Ala Glu Gln Ala Gly Gly Trp  
 195 200

<210> 93  
 <211> 392  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 7068 right: 8243 frame: -1 size(aa): 392

<400> 93

Thr Ala Ser Cys Gly Gln Asp Gln Arg Cys Ala Leu Asp Val Val Ser  
 1 5 10 15  
 Phe His Val Phe Arg Ser Ser Thr Pro Ser Ile Ala His Arg Tyr Ile  
 20 25 30  
 Gly Arg Thr Pro Pro Arg Glu Arg Thr Trp Ser Arg Ser Pro Trp Arg  
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35 40 45  
 Lys Ala Thr Cys Trp Thr Thr Pro Thr Ser Cys Pro Ser Ser Arg Ile  
 50 55 60  
 Arg His Ser Trp Asp Gln Ala Ala Pro Gly Gly Ala Ser Pro Arg Gly  
 65 70 75 80  
 Pro Ala Cys Ser Arg Tyr Arg Trp Leu Pro Gln Ala Ser Lys Ser Trp  
 85 90 95  
 Thr Val Thr Gly Arg Glu Lys Asn Ala Asp Ile Asp Trp Ala Thr Ala  
 100 105 110  
 Pro Met Ser Ala Ser Thr Thr Thr Phe Ile Ala Pro Ser Ala Trp Pro  
 115 120 125  
 Pro Trp Pro Pro Leu Pro Gly Pro Leu Arg Pro Arg Pro Gly Asp Gly  
 130 135 140  
 Ala Thr Trp Pro Pro Arg Ile Arg Ile Arg Ala Gly Ala Ser Arg Arg  
 145 150 155 160  
 Ala Ser Pro Gly Thr Arg Gly Ala Pro Gly Ala Pro Pro Trp Pro Gly  
 165 170 175  
 Ser Gln Ser Ser Pro Ala Ser Ala Ser Ser Arg Ser Ala Cys Ser Ala  
 180 185 190  
 Thr Val Ala Tyr Pro Ala Met Ser Cys Gln Val Ser Cys Cys Ser Gly  
 195 200 205  
 Arg Pro Glu Ile Arg Arg Leu Ile Leu Val Ala Ile Trp Ser Arg Ala  
 210 215 220  
 Ser Ala Ser Thr Gly Leu Ser Thr Trp Asn Arg Ser Val Leu Arg Met  
 225 230 235 240  
 Ala Pro Leu Ile Arg Trp Ala Arg Ala His Cys Ser Arg Ala Gly Pro  
 245 250 255  
 Tyr Trp Val Pro Leu Trp Leu Arg Val Arg Ser Arg Ala Phe Gly Ile  
 260 265 270  
 Val Gly Gly Ile Ala Leu Cys Tyr Gly Ser Thr Ala Ser Thr Pro His  
 275 280 285  
 Pro Gly Val Arg Arg Pro Ala Leu Pro Arg His Arg Trp Glu Val Pro  
 290 295 300  
 Pro Pro His Ser Pro Gly Gly Asn Pro Pro Gly Ala Pro Asp Pro Ser  
 305 310 315 320  
 Leu Ala Asp Ser Pro Gly Ala Gly Ala Pro Gly His Arg Pro Val Arg  
 325 330 335  
 Gln Thr Gly Ser Gly Pro Val Arg Pro Leu Gln Pro Ala Pro Gly Arg  
 340 345 350  
 Ile Asp Arg Pro Val Leu His Pro Ala Thr Arg Arg His Leu Pro Asp  
 355 360 365  
 Val Arg Arg Pro Ala Pro Gly Gly Gly His Arg Pro Ala Ala Phe Arg  
 370 375 380  
 Arg Ala Leu His Pro Gln Leu Leu  
 385 390

<210> 94  
 <211> 70  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 7114 right: 7323 frame: 2 size(aa): 70

<400> 94

Pro Pro Pro Gly Ala Gly Arg Arg Thr Ser Gly Arg Cys Arg Arg Val  
 1 5 10 15  
 Ala Gly Cys Ser Thr Gly Arg Ser Met Arg Pro Gly Ala Gly Cys Arg  
 20 25 30  
 Gly Arg Thr Gly Pro Glu Pro Val Cys Arg Thr Gly Arg Trp Pro Gly  
 35 40 45  
 Ala Pro Ala Pro Gly Glu Ser Ala Arg Leu Gly Ser Gly Ala Pro Gly  
 50 55 60  
 Gly Phe Pro Pro Gly Glu  
 65 70

<210> 95  
 <211> 96  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 7275 right: 7562 frame: 1 size(aa): 96

<400> 95

Val Ser Gln Ala Trp Ile Arg Arg Pro Arg Arg Ile Ser Ser Arg Arg  
 1 5 10 15  
 Val Arg Arg Gly Tyr Phe Pro Ala Met Ser Arg Lys Gly Arg Ser Ser  
 20 25 30  
 Asp Thr Arg Val Gly Arg Gly Gly Cys Ala Thr Ile Ala Gln Arg Tyr  
 35 40 45  
 Ala Thr His Asn Ala Glu Cys Pro Arg Thr Asp Pro Gln Pro Glu Gly  
 50 55 60  
 His Pro Val Arg Pro Ser Pro Gly Ala Val Gly Pro Arg Pro Ala Asp  
 65 70 75 80  
 Gln Gly Cys His Ala Gln His Arg Ala Ile Pro Arg Ala Glu Pro Gly  
 85 90 95

<210> 96  
 <211> 60  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 7373 right: 7552 frame: 3 size(aa): 60

<400> 96

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His Gln Gly Gly Ala Trp Arg Leu Cys Tyr His Ser Thr Ala Leu Cys  
 1 5 10 15  
 His Pro Gln Cys Arg Met Pro Ser Asn Gly Pro Ser Thr Arg Gly Ala  
 20 25 30  
 Pro Ser Thr Ala Gln Pro Gly Ser Ser Gly Pro Ser Pro Ser Gly Ser  
 35 40 45  
 Arg Val Pro Cys Ala Ala Pro Ser Asp Ser Thr Cys  
 50 55 60

<210> 97  
 <211> 268  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 7402 right: 8205 frame: -2 size(aa): 268

<400> 97

Cys Arg Leu Val Ser Cys Leu Pro Val Leu Tyr Ser Gln His Ser Thr  
 1 5 10 15  
 Gln Ile His Arg Thr His Pro Thr Pro Gly Ala Asp Leu Glu Pro Val  
 20 25 30  
 Ala Leu Ala Glu Ser Asp Leu Leu Asp Asp Ala Asp Gln Leu Pro Val  
 35 40 45  
 Lys Gln Asp Pro Pro Leu Leu Gly Pro Gly Arg Thr Arg Trp Gly Val  
 50 55 60  
 Ala Gln Gly Ala Arg Met Leu Gln Val Gln Val Val Ala Pro Gly Leu  
 65 70 75 80  
 Gln Val Leu Asp Arg Asp Gly Ala Arg Glu Glu Arg Arg His Arg Leu  
 85 90 95  
 Gly Asp Gly Ala His Glu Arg Val Tyr Asp His Leu His Arg Ala Leu  
 100 105 110  
 Arg Leu Ala Ala Leu Ala Ala Ser Ala Arg Ala Ala Ala Ala Ser Ala  
 115 120 125  
 Trp Arg Arg Arg His Leu Ala Ala Ser Asp Ser Tyr Pro Gly Arg Arg  
 130 135 140  
 Ile Ser Ala Ser Val Ser Arg Tyr Pro Gly Gly Ser Gly Ser Pro Ala  
 145 150 155 160  
 Leu Ala Arg Ile Ser Val Gln Ser Cys Ile Gly Leu Leu Ala Gln Arg  
 165 170 175  
 Leu Leu Gly His Gly Gly Ile Pro Gly Asp Val Val Pro Gly Val Val  
 180 185 190  
 Leu Leu Gly Gln Ala Arg Asp Gln Ala Ala Asn Leu Gly Gly Asp Leu  
 195 200 205  
 Val Gln Gly Leu Gly Leu Asn Arg Ala Gln His Val Glu Ser Leu Gly  
 210 215 220  
 Ala Ala His Gly Thr Leu Asp Pro Leu Gly Glu Gly Pro Leu Leu Pro  
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225                      230                      235                      240  
 Gly Trp Ala Val Leu Gly Ala Pro Leu Val Glu Gly Pro Phe Glu Gly  
                                  245                      250                      255

Ile Arg His Cys Gly Trp His Ser Ala Val Leu Trp  
                                  260                      265

<210> 98  
 <211> 101  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 7408 right: 7710 frame: 2 size(aa): 101

<400> 98

His Ser Ala Met Pro Pro Thr Met Pro Asn Ala Leu Glu Arg Thr Leu  
 1                      5                      10                      15  
 Asn Gln Arg Gly Thr Gln Tyr Gly Pro Ala Arg Glu Gln Trp Ala Leu  
                                  20                      25                      30  
 Ala Gln Arg Ile Lys Gly Ala Met Arg Ser Thr Glu Arg Phe His Val  
                                  35                      40                      45  
 Leu Ser Pro Val Glu Ala Glu Ala Leu Asp Gln Ile Ala Thr Lys Ile  
                                  50                      55                      60  
 Ser Arg Leu Ile Ser Gly Leu Pro Glu Gln His Asp Thr Trp His Asp  
 65                      70                      75                      80  
 Ile Ala Gly Tyr Ala Thr Val Ala Glu Gln Ala Leu Arg Glu Glu Ala  
                                  85                      90                      95  
 Asp Ala Gly Leu Asp  
                                  100

<210> 99  
 <211> 100  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 7601 right: 7900 frame: -3 size(aa): 100

<400> 99

Ala Arg Leu Arg Pro Pro Ser Ser Arg Pro Pro Leu Gly Arg Leu Gly  
 1                      5                      10                      15  
 Arg Leu Cys Pro Gly Arg Cys Gly Leu Gly Leu Glu Thr Ala Pro Leu  
                                  20                      25                      30  
 Gly Arg Leu Gly Phe Val Ser Gly Pro Ala His Leu Gly Glu Arg Leu  
                                  35                      40                      45  
 Pro Val Pro Gly Gly Leu Arg Glu Pro Arg Pro Gly Gln Asp Leu Ser  
                                  50                      55                      60  
 Pro Val Leu His Arg Pro Pro Arg Ala Ala Pro Ala Arg Pro Arg Trp  
 65                      70                      75                      80

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His Thr Arg Arg Cys Arg Ala Arg Cys Arg Ala Ala Arg Ala Gly Gln  
85 90 95

Arg Ser Gly Gly  
100

<210> 100  
<211> 153  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> New ORF = left: 7602 right: 8060 frame: 1 size(aa): 153

<400> 100

Pro Pro Asp Leu Trp Pro Ala Arg Ala Ala Arg His Leu Ala Arg His  
1 5 10 15  
Arg Arg Val Cys His Arg Gly Arg Ala Gly Ala Ala Arg Gly Gly Arg  
20 25 30  
Cys Arg Thr Gly Leu Arg Ser Trp Pro Gly Arg Gly Ser Arg Ser Pro  
35 40 45  
Pro Gly Thr Gly Arg Arg Ser Pro Arg Cys Ala Gly Pro Asp Thr Asn  
50 55 60  
Pro Arg Arg Pro Ser Gly Ala Val Ser Arg Pro Arg Pro Gln Arg Pro  
65 70 75 80  
Gly Gln Arg Arg Pro Arg Arg Pro Ser Gly Gly Arg Asp Glu Gly Gly  
85 90 95  
Arg Arg Arg Ala His Gly Arg Arg Arg Pro Val Asp Val Gly Val Leu  
100 105 110  
Leu Ala Pro Arg His Gly Pro Arg Leu Gly Gly Leu Gly Gln Pro Pro  
115 120 125  
Val Pro Gly Ala Cys Gly Pro Pro Gly Arg Arg Pro Thr Gly Cys Gly  
130 135 140  
Leu Val Pro Gly Val Ala Asp Pro Ala  
145 150

<210> 101  
<211> 90  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> New ORF = left: 7610 right: 7879 frame: 3 size(aa): 90

<400> 101

Ser Leu Ala Cys Pro Ser Ser Thr Thr Pro Gly Thr Thr Ser Pro Gly  
1 5 10 15  
Met Pro Pro Trp Pro Ser Arg Arg Cys Ala Arg Arg Pro Met Gln Asp  
20 25 30  
Trp Thr Glu Ile Leu Ala Arg Ala Gly Leu Pro Glu Pro Pro Gly Tyr  
35 40 45



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Arg Glu Thr Leu Ala Glu Met Arg Arg Pro Gly Tyr Glu Ser Glu Ala  
50 55 60

Ala Lys Trp Arg Arg Leu Gln Ala Glu Ala Ala Ala Arg Ala Glu  
65 70 75 80

Ala Ala Lys Ala Ala Lys Arg Arg Ala Arg  
85 90

<210> 102

<211> 159

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 7714 right: 8190 frame: 2 size(aa): 159

<400> 102

Asp Pro Gly Gln Gly Gly Ala Pro Gly Ala Pro Arg Val Pro Gly Asp  
1 5 10 15

Ala Arg Arg Asp Ala Pro Ala Arg Ile Arg Ile Arg Gly Gly Gln Val  
20 25 30

Ala Pro Ser Pro Gly Arg Gly Arg Ser Gly Pro Gly Arg Gly Gly Gln  
35 40 45

Gly Gly Gln Ala Glu Gly Ala Met Lys Val Val Val Asp Ala Leu Met  
50 55 60

Gly Ala Val Ala Gln Ser Met Ser Ala Phe Phe Ser Arg Pro Val Thr  
65 70 75 80

Val Gln Asp Leu Glu Ala Trp Gly Asn His Leu Tyr Leu Glu His Ala  
85 90 95

Gly Pro Leu Gly Asp Ala Pro Pro Gly Ala Ala Trp Ser Gln Glu Trp  
100 105 110

Arg Ile Leu Leu Asp Gly Gln Leu Val Gly Val Val Gln Gln Val Ala  
115 120 125

Phe Arg Gln Gly Asp Arg Leu Gln Val Arg Ser Arg Gly Gly Val Arg  
130 135 140

Pro Met Tyr Leu Cys Ala Met Leu Gly Val Glu Asp Arg Lys Thr  
145 150 155

<210> 103

<211> 93

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 7895 right: 8173 frame: 3 size(aa): 93

<400> 103

Thr Arg Ser Trp Ala Pro Ser Pro Ser Arg Cys Arg Arg Ser Ser Arg  
1 5 10 15

Ala Pro Ser Arg Ser Lys Thr Trp Arg Pro Gly Ala Thr Thr Cys Thr  
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20 25 30  
 Trp Ser Met Arg Ala Pro Trp Ala Thr Pro His Arg Val Arg Pro Gly  
 35 40 45  
 Pro Arg Ser Gly Gly Ser Cys Leu Thr Gly Ser Trp Ser Ala Ser Ser  
 50 55 60  
 Ser Arg Ser Leu Ser Ala Arg Ala Thr Gly Ser Arg Ser Ala Pro Gly  
 65 70 75 80  
 Val Gly Cys Val Arg Cys Ile Cys Val Leu Cys Trp Glu  
 85 90

<210> 104  
 <211> 70  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 7952 right: 8161 frame: -3 size(aa): 70

<400> 104  
 His Thr Asp Thr Ser Asp Ala Pro His Pro Gly Ser Gly Pro Gly Ala  
 1 5 10 15  
 Gly Arg Pro Gly Gly Lys Arg Pro Ala Gly Arg Arg Arg Pro Ala Ala  
 20 25 30  
 Arg Gln Ala Gly Ser Ala Thr Pro Gly Thr Arg Pro His Pro Val Gly  
 35 40 45  
 Arg Arg Pro Gly Gly Pro His Ala Pro Gly Thr Gly Gly Cys Pro Arg  
 50 55 60  
 Pro Pro Ser Leu Gly Pro  
 65 70

<210> 105  
 <211> 100  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 8064 right: 8363 frame: 1 size(aa): 100

<400> 105  
 Arg Ala Ala Gly Arg Arg Arg Pro Ala Gly Arg Phe Pro Pro Gly Arg  
 1 5 10 15  
 Pro Ala Pro Gly Pro Leu Pro Gly Trp Gly Ala Ser Asp Val Ser Val  
 20 25 30  
 Cys Tyr Ala Gly Ser Arg Gly Pro Glu Asp Met Lys Arg Asp Asp Ile  
 35 40 45  
 Lys Gly Ala Pro Leu Ile Leu Ala Thr Gly Arg Gly Leu Pro Pro Asp  
 50 55 60  
 Pro Asn Glu Pro Pro Lys Gly Asp Leu Ala Ala Trp Ala Ala Tyr His  
 65 70 75 80

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Gly Ile Glu Tyr Val Asn Arg Ala Glu Glu Pro Pro Ala Pro Gly Glu  
85 90 95

Glu Pro Arg Gly  
100

<210> 106  
<211> 70  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> New ORF = left: 8177 right: 8386 frame: 3 size(aa): 70

<400> 106

Arg Thr Gly Arg His Glu Thr Arg Arg His Gln Gly Arg Thr Ala Asp  
1 5 10 15  
Pro Gly His Arg Thr Arg Ser Thr Pro Arg Pro Glu Arg Ala Ala Gln  
20 25 30  
Gly Arg Pro Gly Arg Leu Gly Arg Leu Pro Arg His Arg Val Arg Gln  
35 40 45  
Pro Gly Gly Gly Ala Thr Gly Thr Trp Arg Arg Thr Thr Arg Val Asn  
50 55 60  
Ala Pro Ser Ala Leu Gly  
65 70

<210> 107  
<211> 89  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> New ORF = left: 8224 right: 8490 frame: 2 size(aa): 89

<400> 107

Ser Trp Pro Gln Asp Ala Val Tyr Pro Pro Thr Arg Thr Ser Arg Pro  
1 5 10 15  
Arg Ala Thr Trp Pro Pro Gly Pro Thr Thr Ala Ser Ser Thr Ser  
20 25 30  
Thr Gly Arg Arg Ser His Arg His Leu Ala Lys Asn His Ala Gly Glu  
35 40 45  
Arg Ala Leu Ser Leu Gly Leu Ile Pro Thr Cys Ala Leu Gly Arg Gly  
50 55 60  
Gly Pro Phe Leu Asp Ala Asp His Leu Val Ala Asp Pro Leu Arg His  
65 70 75 80  
Glu His Leu Glu Leu Val Val Glu Leu  
85

<210> 108  
<211> 95  
<212> PRT  
<213> Cyanophage S-2L

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&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 8247 right: 8531 frame: -1 size(aa): 95

&lt;400&gt; 108

Ser Arg Thr Thr Ser Thr Ala Ser Pro Ser Pro Ala Cys Gln Ser Ser  
 1 5 10 15  
 Thr Thr Ser Ser Arg Cys Ser Cys Arg Arg Gly Ser Ala Thr Arg Trp  
 20 25 30  
 Ser Ala Ser Arg Lys Gly Pro Pro Arg Pro Arg Ala Gln Val Gly Ile  
 35 40 45  
 Ser Pro Arg Leu Arg Ala Arg Ser Pro Ala Trp Phe Phe Ala Arg Cys  
 50 55 60  
 Arg Trp Leu Leu Arg Pro Val Asp Val Leu Asp Ala Val Val Gly Gly  
 65 70 75 80  
 Pro Gly Gly Gln Val Ala Leu Gly Arg Leu Val Arg Val Gly Gly  
 85 90 95

&lt;210&gt; 109

&lt;211&gt; 656

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 8320 right: 10287 frame: -2 size(aa): 656

&lt;400&gt; 109

Ala Gly Ser Ser Arg Pro Thr Ser Arg Pro Pro Ala Ala Ser Ser Arg  
 1 5 10 15  
 Ser Ser Arg Arg Cys Pro Pro Ala Gly Ser Ser Gly Ser Ala Pro Glu  
 20 25 30  
 Pro Asp Ala Arg Arg His Pro Gly Pro Gly Gly Arg Arg Arg Arg Pro  
 35 40 45  
 Asp Arg Arg Arg Ala Ala Pro Gly Pro Gly Pro Gly Val Leu Arg Gly  
 50 55 60  
 Ala Gly Ala Gly Arg His Leu Pro Ala Gly Arg Arg Gly Asp Pro Gly  
 65 70 75 80  
 Gly Arg Cys Gly Val Asp Gly Leu Ser Val Gly Val Gly Gly Val Thr  
 85 90 95  
 Val Thr Pro Gln Gln Leu Val Ala Val Ala Arg Asp Thr Gly Phe Arg  
 100 105 110  
 Thr Phe Pro Gly Leu Leu Arg Lys Ala Ser Gly Gln Pro Tyr Thr Ile  
 115 120 125  
 Gly Thr Ala Thr Ala Ala Phe Gln Gln Gly Gln Thr Lys Leu Ile Glu  
 130 135 140  
 Ala Arg Leu Arg Glu Gly Phe Leu Leu Ser Lys Ser Asn Ser Glu Ile  
 145 150 155 160  
 Val Ala Asp Val Arg Thr Ala Met Ala Thr Ala Asn Arg Arg Gln Val

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Glu 180	Ala 181	Leu 182	Val 183	Arg 184	Thr 185	Ser 186	Met 187	Ala 188	Gln 189	Ala 190	Ser 191	Gln 192	Thr 193	Ala 194	His 195
Asp 200	Ala 201	Phe 202	Asn 203	Glu 204	Ala 205	Asn 206	Glu 207	Asp 208	Val 209	Leu 210	Gly 211	Asp 212	Lys 213	Asp 214	Gly 215
Asn 225	Arg 226	Tyr 227	Ile 228	Trp 229	Asp 230	Ala 231	Ser 232	Asn 233	Asp 234	Gly 235	Arg 236	Leu 237	Cys 238	Pro 239	Val 240
Cys 245	Ala 246	Pro 247	Leu 248	Asp 249	Gly 250	Thr 251	Arg 252	Tyr 253	Lys 254	Glu 255	Arg 256	Lys 257	Lys 258	Ala 259	Pro 260
Trp 265	Pro 266	Ala 267	His 268	Trp 269	Asn 270	Glu 271	Arg 272	Cys 273	Arg 274	Ile 275	Leu 276	Pro 277	Leu 278	Thr 279	Pro 280
Leu 285	Ser 286	Asp 287	Thr 288	Leu 289	Gly 290	Ala 291	Leu 292	Pro 293	Glu 294	Thr 295	Tyr 296	Leu 297	Glu 298	Gln 299	Val 300
Pro 305	Val 306	Gln 307	Tyr 308	Asp 309	Ala 310	Lys 311	Gly 312	Lys 313	Arg 314	Leu 315	Pro 316	Pro 317	Pro 318	Ala 319	Gly 320
Trp 325	Thr 326	Gly 327	Glu 328	Ala 329	Ala 330	Tyr 331	Lys 332	Thr 333	Pro 334	Arg 335	Lys 336	Ile 337	Asn 338	Gly 339	Gln 340
Gln 345	Tyr 346	Trp 347	Val 348	Arg 349	Arg 350	Arg 351	Asp 352	Asn 353	Pro 354	Gly 355	Gly 356	Thr 357	Val 358	Gly 359	Ala 360
Met 365	Leu 366	Gln 367	Arg 368	Ser 369	Asn 370	Asp 371	Glu 372	Thr 373	Ala 374	Gln 375	Ala 376	Val 377	Leu 378	Gly 379	Thr 380
Lys 385	Ala 386	Arg 387	Leu 388	Ala 389	Arg 390	Phe 391	Arg 392	Lys 393	Leu 394	Thr 395	Gly 396	Pro 397	Lys 398	Gly 399	Lys 400
Tyr 405	Val 406	Lys 407	Asp 408	Pro 409	Gln 410	Gly 411	Ala 412	Val 413	Val 414	Glu 415	Leu 416	Leu 417	Arg 418	Pro 419	Gly 420
Ser 425	Val 426	Lys 427	Lys 428	Pro 429	Ala 430	Pro 431	Pro 432	Pro 433	Lys 434	Pro 435	Lys 436	Pro 437	Lys 438	Pro 439	Lys 440
Ala 445	Pro 446	Lys 447	Pro 448	Val 449	Val 450	Ala 451	Pro 452	Pro 453	Leu 454	Val 455	Gln 456	Pro 457	Ala 458	Pro 459	Val 460
Ala 465	Pro 466	Pro 467	Pro 468	Ala 469	Pro 470	Ala 471	Pro 472	Pro 473	Val 474	Val 475	Thr 476	Arg 477	Ala 478	Pro 479	Arg 480
Arg 485	Ala 486	Arg 487	Pro 488	Ala 489	Pro 490	Ala 491	Pro 492	Ala 493	Pro 494	Ala 495	Pro 496	Pro 497	Ala 498	Pro 499	Pro 500
Arg 505	Leu 506	Tyr 507	Ser 508	Glu 509	Val 510	Arg 511	Ala 512	Arg 513	Arg 514	Asn 515	Ser 516	Asp 517	Thr 518	Thr 519	Thr 520
Asp 525	Ile 526	Lys 527	His 528	Lys 529	Tyr 530	Arg 531	Thr 532	Lys 533	His 534	Arg 535	Ala 536	Val 537	Val 538	Arg 539	Asp 540
Trp 545	Thr 546	Gly 547	Ser 548	Gly 549	Tyr 550	Thr 551	Glu 552	Ile 553	Arg 554	Thr 555	Ala 556	Gln 557	Val 558	Lys 559	Ala 560
Ala 565	Gln 566	Ala 567	Arg 568	Gly 569	Met 570	Asp 571	Leu 572	Thr 573	Asp 574	Phe 575	Gly 576	Lys 577	Gln 578	Met 579	Ala 580
Arg 585	Lys 586	Gln 587	Met 588	Ser 589	Asp 590	Asp 591	Arg 592	Leu 593	Ala 594	Asp 595	Leu 596	Leu 597	Asp 598	Lys 599	Ala 600
Asp 605	Arg 606	Leu 607	Glu 608	Asp 609	Phe 610	Ile 611	Thr 612	Thr 613	Ala 614	Pro 615	Val 616	Tyr 617	Lys 618	Gly 619	Gly 620

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Pro Thr Tyr Arg Gly Met Arg Tyr His Ser Lys Ala Ala Ile Glu Glu  
 530 535 540  
 Asp Ile Arg Arg Ile Arg Ala Gly Glu Pro Ser Ile Thr Leu Glu Ser  
 545 550 555 560  
 Trp Thr Thr Asp Glu Ser Val Ser Tyr Arg Phe Asn Ala Leu Tyr Arg  
 565 570 575  
 Lys Asp Arg Tyr Ser Val Thr Tyr Val Val Glu Asp Asn Leu His Gly  
 580 585 590  
 Val Pro Ile Ser Ser Met Ser Lys Phe Asp Asp Glu Leu Glu Val Leu  
 595 600 605  
 Met Pro Glu Gly Val Arg Tyr Glu Val Val Arg Ile Glu Glu Gly Ala  
 610 615 620  
 Thr Pro Ala Lys Ser Ala Gly Gly Tyr Gln Pro Lys Ala Glu Gly Ala  
 625 630 635 640  
 Phe Thr Arg Val Val Leu Arg Gln Val Pro Val Ala Pro Pro Pro Gly  
 645 650 655

<210> 110  
 <211> 144  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 8378 right: 8809 frame: -3 size(aa): 144

<400> 110

Ala Asp Gly Gln Glu Ala Asp Val Arg Arg Pro Ala Gly Arg Pro Thr  
 1 5 10 15  
 Arg Gln Gly Arg Pro Ala Arg Gly Leu His His Asp Gly Ala Arg Leu  
 20 25 30  
 Gln Arg Arg Pro Asp Leu Pro Gly His Ala Leu Pro Gln Gln Ser Gly  
 35 40 45  
 His Arg Gly Gly His Pro Pro His Pro Ser Arg Gly Ala Val Asp His  
 50 55 60  
 Ala Gly Lys Leu Asp His Arg Arg Val Gly Val Leu Pro Val Gln Arg  
 65 70 75 80  
 Pro Val Pro Gln Gly Pro Val Leu Gly Asp Ile Arg Ser Arg Gly Gln  
 85 90 95  
 Pro Pro Arg Arg Pro His Leu Gln His Val Lys Val Arg Arg Arg Ala  
 100 105 110  
 Arg Gly Ala His Ala Gly Gly Gly Pro Leu Arg Gly Gly Pro His Arg  
 115 120 125  
 Gly Arg Gly His Pro Gly Gln Glu Arg Arg Trp Val Ser Ala Gln Gly  
 130 135 140

<210> 111  
 <211> 90  
 <212> PRT  
 <213> Cyanophage S-2L

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<220>  
 <221> misc\_feature  
 <223> New ORF = left: 8494 right: 8763 frame: 2 size(aa): 90

<400> 111

His Ala Gly Asp Gly Asp Ala Val Glu Val Val Leu Asp Tyr Val Cys  
 1 5 10 15  
 His Arg Val Pro Val Leu Ala Val Gln Gly Val Glu Pro Val Gly His  
 20 25 30  
 Arg Leu Val Gly Gly Pro Ala Phe Gln Arg Asp Arg Arg Leu Pro Gly  
 35 40 45  
 Ser Asp Ala Ala Asp Val Leu Leu Asp Gly Arg Phe Ala Val Val Ala  
 50 55 60  
 His Ala Pro Val Gly Arg Ala Ala Phe Val Asp Gly Arg Arg Arg Asp  
 65 70 75 80  
 Glu Val Leu Glu Pro Val Gly Leu Val Glu  
 85 90

<210> 112  
 <211> 93  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 8544 right: 8822 frame: -1 size(aa): 93

<400> 112

Pro Ile Leu Val Ser Arg Trp Pro Gly Ser Arg Cys Pro Thr Thr Gly  
 1 5 10 15  
 Trp Gln Thr Tyr Ser Thr Arg Pro Thr Gly Ser Arg Thr Ser Ser Arg  
 20 25 30  
 Arg Arg Pro Ser Thr Lys Ala Ala Arg Pro Thr Gly Ala Cys Ala Thr  
 35 40 45  
 Thr Ala Lys Arg Pro Ser Arg Arg Thr Ser Ala Ala Ser Glu Pro Gly  
 50 55 60  
 Ser Arg Arg Ser Arg Trp Lys Ala Gly Pro Pro Thr Ser Arg Cys Pro  
 65 70 75 80  
 Thr Gly Ser Thr Pro Cys Thr Ala Arg Thr Gly Thr Arg  
 85 90

<210> 113  
 <211> 54  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 8717 right: 8878 frame: 3 size(aa): 54

<400> 113

Thr Gly Ala Val Val Met Lys Ser Ser Ser Arg Ser Ala Leu Ser Ser  
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1 5 10 15  
 Arg Ser Ala Ser Arg Ser Ser Asp Ile Cys Phe Leu Ala Ile Cys Leu  
 20 25 30  
 Pro Lys Ser Val Arg Ser Met Pro Arg Ala Trp Ala Ala Phe Thr Trp  
 35 40 45  
 Ala Val Arg Ile Ser Val  
 50

<210> 114  
 <211> 67  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 8736 right: 8936 frame: 1 size(aa): 67

<400> 114  
 Ser Pro Arg Ala Gly Arg Pro Cys Arg Val Gly Leu Pro Ala Gly Arg  
 1 5 10 15  
 Arg Thr Ser Ala Ser Trp Pro Ser Ala Tyr Gln Asn Arg Ser Asp Pro  
 20 25 30  
 Cys Pro Gly Pro Gly Arg Pro Ser Pro Gly Arg Cys Gly Ser Arg Cys  
 35 40 45  
 Asn Gln Ser Arg Ser Ser Arg Ala Arg Arg Pro Gly Ala Trp Cys Gly  
 50 55 60  
 Thr Cys Ala  
 65

<210> 115  
 <211> 436  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 8767 right: 10074 frame: 2 size(aa): 436

<400> 115  
 Val Cys Gln Pro Val Val Gly His Leu Leu Pro Gly His Leu Leu Thr  
 1 5 10 15  
 Lys Ile Gly Gln Ile His Ala Pro Gly Leu Gly Gly Leu His Leu Gly  
 20 25 30  
 Gly Ala Asp Leu Gly Val Thr Arg Ala Gly Pro Val Ala His Asp Gly  
 35 40 45  
 Pro Val Leu Gly Ala Val Leu Val Leu Asp Val Gly Cys Gly Val Ala  
 50 55 60  
 Ile Thr Thr Gly Thr His Leu Arg Ile Gln Pro Gly Arg Cys Arg Arg  
 65 70 75 80  
 Cys Gly Gly Arg Gly Trp Gly Arg Ala Gly Thr Thr Trp Arg Pro Gly  
 85 90 95



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Asp His Gly Arg Gly Arg Ser Arg Arg Arg Gly His Trp Cys Gly Leu  
 100 105 110  
 Asp Gln Trp Arg Gly His Asp Gly Leu Arg Ser Leu Gly Leu Arg Leu  
 115 120 125  
 Gly Leu Arg Arg Arg Gly Gly Leu Leu Asp Thr Ala Gly Pro Gln Glu  
 130 135 140  
 Leu Asp His Gly Pro Leu Gly Ile Leu Asp Val Leu Ala Leu Gly Ala  
 145 150 155 160  
 Gly Gln Leu Pro Glu Pro Gly Gln Ala Gly Leu Gly Ala Glu His Arg  
 165 170 175  
 Leu Gly Gly Phe Val Val Gly Pro Leu Gln His Arg Pro Asp Gly Ala  
 180 185 190  
 Pro Gly Val Val Pro Ala Pro Asp Pro Ile Leu Leu Ala Val Asp Leu  
 195 200 205  
 Thr Gly Arg Leu Val Gly Gly Leu Pro Gly Pro Ala Gly Arg Arg Gly  
 210 215 220  
 Gln Ser Phe Ala Leu Gly Val Val Leu His Arg His Leu Phe Glu Val  
 225 230 235 240  
 Gly Leu Arg Gln Gly Ala Gln Gly Val Ala Gln Arg Gly Glu Arg Gln  
 245 250 255  
 Asp Pro Ala Pro Leu Val Pro Val Gly Arg Pro Gly Gly Leu Leu Ala  
 260 265 270  
 Leu Leu Val Pro Gly Ala Val Glu Arg Gly Ala His Arg Ala Glu Pro  
 275 280 285  
 Ala Val Val Ala Gly Val Pro Asp Val Ala Val Ala Val Leu Val Ser  
 290 295 300  
 Gln Asp Val Leu Val Gly Leu Val Glu Cys Val Met Arg Arg Leu Ala  
 305 310 315 320  
 Gly Leu Gly His Arg Arg Thr Asp Gln Gly Phe His Leu Pro Ala Val  
 325 330 335  
 Gly Arg Gly His Arg Arg Pro Asp Val Gly Asp Asp Leu Gly Val Gly  
 340 345 350  
 Phe Gly Gln Glu Glu Ala Leu Pro Glu Pro Gly Leu Asp Gln Leu Arg  
 355 360 365  
 Leu Pro Leu Leu Glu Cys Ser Gly Arg Arg Ala Asp Gly Val Gly Leu  
 370 375 380  
 Ala Arg Arg Leu Pro Glu Glu Pro Arg Glu Cys Pro Glu Ala Arg Ile  
 385 390 395 400  
 Pro Gly Asp Gly His Gln Leu Leu Arg Gly Asp Arg Asp Ala Pro Asp  
 405 410 415  
 Ala His Arg Glu Ala Val Asp Ala Ala Thr Ala Thr Gly Val Ala Pro  
 420 425 430  
 Thr Ala Arg Arg  
 435

<210> 116  
 <211> 131

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<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> New ORF = left: 8856 right: 9248 frame: -1 size(aa): 131

<400> 116

Pro Ala Pro Arg Ala Ser Thr Ser Arg Ile Pro Arg Gly Pro Trp Ser  
1 5 10 15  
Ser Ser Cys Gly Pro Ala Val Ser Arg Ser Pro Pro Arg Leu Arg Ser  
20 25 30  
Pro Ser Arg Ser Pro Arg Leu Arg Ser Pro Ser Trp Pro Leu His Trp  
35 40 45  
Ser Ser Pro His Gln Trp Pro Arg Arg Arg Leu Arg Pro Leu Pro Trp  
50 55 60  
Ser Pro Gly Arg His Val Val Pro Ala Arg Pro Gln Pro Arg Pro Pro  
65 70 75 80  
His Arg Arg His Arg Pro Gly Cys Ile Leu Arg Cys Val Pro Val Val  
85 90 95  
Ile Ala Thr Pro Gln Pro Thr Ser Ser Thr Ser Thr Ala Pro Ser Thr  
100 105 110  
Gly Pro Ser Cys Ala Thr Gly Pro Ala Leu Val Thr Pro Arg Ser Ala  
115 120 125  
Pro Pro Arg  
130

<210> 117  
<211> 174  
<212> PRT  
<213> Cyanophage S-2L  
<220>  
<221> misc\_feature  
<223> New ORF = left: 8882 right: 9403 frame: 3 size(aa): 174

<400> 117

Pro Glu Pro Val Gln Ser Arg Thr Thr Ala Arg Cys Leu Val Arg Tyr  
1 5 10 15  
Leu Cys Leu Met Ser Val Val Val Ser Leu Leu Arg Arg Ala Arg Thr  
20 25 30  
Ser Glu Tyr Ser Leu Gly Gly Ala Gly Gly Ala Gly Ala Gly  
35 40 45  
Ala Gly Arg Ala Arg Arg Gly Ala Arg Val Thr Thr Gly Gly Ala Gly  
50 55 60  
Ala Gly Gly Gly Ala Thr Gly Ala Gly Trp Thr Asn Gly Gly Ala Thr  
65 70 75 80  
Thr Gly Phe Gly Ala Leu Gly Phe Gly Leu Gly Phe Gly Gly Gly Ala  
85 90 95  
Gly Phe Leu Thr Leu Pro Gly Arg Arg Ser Ser Thr Thr Ala Pro Trp  
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100 105 110

Gly Ser Leu Thr Tyr Leu Pro Leu Gly Pro Val Ser Phe Arg Asn Arg  
 115 120 125

Ala Arg Arg Ala Leu Val Pro Ser Thr Ala Trp Ala Val Ser Ser Leu  
 130 135 140

Asp Arg Cys Ser Ile Ala Pro Thr Val Pro Pro Gly Leu Ser Arg Arg  
 145 150 155 160

Arg Thr Gln Tyr Cys Trp Pro Leu Ile Leu Arg Gly Val Leu  
 165 170

<210> 118  
 <211> 136  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 8981 right: 9388 frame: -3 size(aa): 136

<400> 118

Asp Gln Arg Pro Ala Val Leu Gly Pro Ala Pro Gly Gln Pro Arg Gly  
 1 5 10 15

His Arg Arg Gly Asp Ala Ala Ala Val Gln Arg Arg Asn Arg Pro Gly  
 20 25 30

Gly Ala Arg His Gln Gly Pro Pro Gly Pro Val Pro Glu Ala Asp Arg  
 35 40 45

Pro Gln Gly Gln Val Arg Gln Gly Ser Pro Gly Gly Arg Gly Arg Ala  
 50 55 60

Pro Ala Ala Arg Gln Cys Gln Glu Ala Arg Pro Ala Ser Glu Ala Gln  
 65 70 75 80

Ala Glu Ala Gln Gly Ser Glu Ala Arg Arg Gly Pro Ser Ile Gly Pro  
 85 90 95

Ala Arg Thr Ser Gly Pro Ala Ala Gly Ser Gly Pro Ser Arg Gly His  
 100 105 110

Pro Gly Ala Thr Ser Cys Pro Pro Gly Pro Ser Pro Gly Pro Arg Thr  
 115 120 125

Ala Gly Thr Ala Gln Ala Val Phe  
 130 135

<210> 119  
 <211> 52  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 9228 right: 9383 frame: 1 size(aa): 52

<400> 119

Arg Thr Cys Pro Trp Gly Arg Ser Ala Ser Gly Thr Gly Pro Gly Gly  
 1 5 10 15

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Pro Trp Cys Arg Ala Pro Pro Gly Arg Phe Arg Arg Trp Thr Ala Ala  
20 25 30

Ala Ser Pro Arg Arg Cys Pro Arg Gly Cys Pro Gly Ala Gly Pro Asn  
35 40 45

Thr Ala Gly Arg  
50

<210> 120

<211> 88

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 9252 right: 9515 frame: -1 size(aa): 88

<400> 120

Ala Thr Pro Trp Ala Pro Cys Arg Arg Pro Thr Ser Asn Arg Cys Arg  
1 5 10 15

Cys Ser Thr Thr Pro Arg Ala Asn Asp Cys Pro Arg Arg Pro Ala Gly  
20 25 30

Pro Gly Arg Pro Pro Thr Arg Arg Pro Val Arg Ser Thr Ala Ser Ser  
35 40 45

Ile Gly Ser Gly Ala Gly Thr Pro Gly Ala Pro Ser Gly Arg Cys  
50 55 60

Cys Ser Gly Pro Thr Thr Lys Pro Pro Arg Arg Cys Ser Ala Pro Arg  
65 70 75 80

Pro Ala Trp Pro Gly Ser Gly Ser  
85

<210> 121

<211> 106

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 9392 right: 9709 frame: -3 size(aa): 106

<400> 121

Arg Ile Gln Arg Gly Gln Arg Gly Arg Pro Gly Arg Gln Gly Arg Gln  
1 5 10 15

Pro Leu His Leu Gly Arg Gln Gln Arg Arg Pro Ala Leu Pro Gly Val  
20 25 30

Arg Pro Ala Arg Arg His Gln Val Gln Gly Ala Gln Glu Gly Pro Leu  
35 40 45

Ala Gly Pro Leu Glu Arg Ala Val Pro Asp Pro Ala Ala His Pro Ala  
50 55 60

Glu Arg His Pro Gly Arg Pro Ala Gly Asp Leu Pro Arg Thr Gly Ala  
65 70 75 80

Gly Ala Val Arg Arg Gln Gly Gln Thr Thr Ala Pro Ala Gly Arg Leu  
85 90 95

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Asp Arg Gly Gly Arg Leu Gln Asp Ala Pro  
100 105

<210> 122  
<211> 56  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> New ORF = left: 9488 right: 9655 frame: 3 size(aa): 56

<400> 122

Val Ser Gly Arg Ala Pro Arg Val Ser Leu Ser Gly Val Ser Gly Arg  
1 5 10 15  
Ile Arg His Arg Ser Phe Gln Trp Ala Gly Gln Gly Ala Phe Leu Arg  
20 25 30  
Ser Leu Tyr Leu Val Pro Ser Ser Gly Ala His Thr Gly Gln Ser Arg  
35 40 45  
Pro Ser Leu Leu Ala Ser Gln Met  
50 55

<210> 123  
<211> 114  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> New ORF = left: 9519 right: 9860 frame: -1 size(aa): 114

<400> 123

Ser Arg Pro Gly Ser Gly Arg Ala Ser Ser Cys Pro Asn Pro Thr Pro  
1 5 10 15  
Arg Ser Ser Pro Thr Ser Gly Arg Arg Trp Pro Arg Pro Thr Ala Gly  
20 25 30  
Arg Trp Lys Pro Trp Ser Val Arg Arg Trp Pro Arg Pro Ala Arg Arg  
35 40 45  
Arg Met Thr His Ser Thr Arg Pro Thr Arg Thr Ser Trp Glu Thr Arg  
50 55 60  
Thr Ala Thr Ala Thr Ser Gly Thr Pro Ala Thr Thr Ala Gly Ser Ala  
65 70 75 80  
Arg Cys Ala Pro Arg Ser Thr Ala Pro Gly Thr Arg Ser Ala Arg Arg  
85 90 95  
Pro Pro Gly Arg Pro Thr Gly Thr Ser Gly Ala Gly Ser Cys Arg Ser  
100 105 110

Pro Arg

<210> 124  
<211> 58  
<212> PRT  
<213> Cyanophage S-2L

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<220>  
 <221> misc\_feature  
 <223> New ORF = left: 9528 right: 9701 frame: 1 size(aa): 58

<400> 124

Ala Ala Gly Ser Gly Thr Ala Arg Ser Ser Gly Pro Ala Arg Gly Pro  
 1 5 10 15  
 Ser Cys Ala Pro Cys Thr Trp Cys Arg Arg Ala Gly Arg Thr Pro Gly  
 20 25 30  
 Arg Ala Gly Arg Arg Cys Trp Arg Pro Arg Cys Ser Gly Cys Arg Pro  
 35 40 45  
 Cys Leu Pro Gly Arg Pro Arg Trp Pro Arg  
 50 55

<210> 125  
 <211> 84  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 9659 right: 9910 frame: 3 size(aa): 84

<400> 125

Arg Leu Pro Ser Leu Ser Pro Arg Thr Ser Ser Leu Ala Ser Leu Asn  
 1 5 10 15  
 Ala Ser Cys Ala Val Trp Leu Ala Trp Ala Ile Asp Val Arg Thr Arg  
 20 25 30  
 Ala Ser Thr Cys Arg Arg Leu Ala Val Ala Ile Ala Val Arg Thr Ser  
 35 40 45  
 Ala Thr Ile Ser Glu Leu Asp Leu Asp Arg Arg Lys Pro Ser Arg Ser  
 50 55 60  
 Arg Ala Ser Ile Ser Phe Val Cys Pro Cys Trp Asn Ala Ala Val Ala  
 65 70 75 80  
 Val Pro Met Val

<210> 126  
 <211> 97  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 9705 right: 9995 frame: 1 size(aa): 97

<400> 126

Met Arg His Ala Pro Ser Gly Trp Pro Gly Pro Ser Thr Tyr Gly Pro  
 1 5 10 15  
 Gly Leu Pro Pro Ala Gly Gly Trp Pro Trp Pro Ser Pro Ser Gly Arg  
 20 25 30

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Arg Arg Arg Ser Arg Ser Trp Ile Trp Thr Gly Gly Ser Pro Pro Gly  
 35 40 45  
 Ala Gly Pro Arg Ser Ala Ser Ser Ala Pro Ala Gly Met Gln Arg Ser  
 50 55 60  
 Pro Cys Arg Trp Cys Arg Ala Gly Pro Thr Pro Ser Gly Gly Ala Gln  
 65 70 75 80  
 Gly Met Ser Gly Ser Pro Tyr Pro Gly Arg Arg Pro Pro Ala Ala Ala  
 85 90 95  
 Gly

<210> 127  
 <211> 160  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 9713 right: 10192 frame: -3 size(aa): 160

<400> 127

Thr Arg Arg Ser Pro Ser Ser Arg Pro Arg Trp Pro Pro Ser Ala Thr  
 1 5 10 15  
 Gly Ser Thr Pro Cys Cys Pro Arg Pro Arg Pro Arg Arg Ser Pro Arg  
 20 25 30  
 Gly Trp Cys Arg Pro Thr Pro Thr Cys Gly Pro Ser Gly Arg Pro Arg  
 35 40 45  
 Trp Pro Leu Arg Arg Arg Arg Pro Leu Gly Gly Arg Arg Gly Arg His  
 50 55 60  
 Gly His Pro Ala Ala Ala Gly Gly Arg Arg Pro Gly Tyr Gly Leu Pro  
 65 70 75 80  
 Asp Ile Pro Trp Ala Pro Pro Glu Gly Val Gly Pro Ala Leu His His  
 85 90 95  
 Arg His Gly Asp Arg Cys Ile Pro Ala Gly Ala Asp Glu Ala Asp Arg  
 100 105 110  
 Gly Pro Ala Pro Gly Gly Leu Pro Pro Val Gln Ile Gln Leu Arg Asp  
 115 120 125  
 Arg Arg Arg Arg Pro Asp Gly Asp Gly His Gly Gln Pro Pro Ala Gly  
 130 135 140  
 Gly Ser Pro Gly Pro Tyr Val Asp Gly Pro Gly Gln Pro Asp Gly Ala  
 145 150 155 160

<210> 128  
 <211> 223  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 9864 right: 10532 frame: -1 size(aa): 223

<400> 128

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Arg Ser Gly Arg Pro Ala Asn Gly Cys Pro Thr Ala Trp Thr Ser Arg  
 1 5 10 15  
 Ser Ser Gly Thr Pro Ser Arg Ala Arg Arg Pro Arg Arg Pro Arg Arg  
 20 25 30  
 Ser Ser Thr Arg Arg Pro Thr Pro Arg Ile Arg Arg Pro Thr Arg Lys  
 35 40 45  
 Pro Thr Arg Arg Pro Thr Pro Arg Arg Leu Thr Ser Glu Ser Pro Gly  
 50 55 60  
 Pro Gly Arg Pro Gly Pro Val Arg Pro Pro Gln Pro Leu Glu Ser Gly  
 65 70 75 80  
 Ala Glu Pro Asp Pro Pro Asp Leu Arg Ala Gly His Pro Pro His Pro  
 85 90 95  
 Arg Gly Ala Pro Asp Ala Ala Arg Arg Pro Ala Arg Ala Ala Val Arg  
 100 105 110  
 Leu Asn Gln Thr Leu Ala Val Ile Gln Ala Gln Val Ala Ala Val Gly  
 115 120 125  
 Asp Arg Ile Asp Ala Val Leu Pro Pro Ala Gln Ala Gln Ala Phe Ser  
 130 135 140  
 Glu Gly Leu Val Gln Ala Asp Thr Tyr Leu Arg Ala Val Gly Ala Thr  
 145 150 155 160  
 Pro Val Ala Val Ala Ala Ser Thr Ala Ser Arg Trp Ala Ser Gly Ala  
 165 170 175  
 Ser Arg Ser Pro Arg Ser Ser Trp Trp Pro Ser Pro Gly Ile Arg Ala  
 180 185 190  
 Ser Gly His Ser Leu Gly Ser Ser Gly Arg Arg Arg Ala Ser Pro Thr  
 195 200 205  
 Pro Ser Ala Arg Arg Pro Leu His Ser Ser Arg Gly Arg Arg Ser  
 210 215 220

<210> 129

<211> 87

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 9914 right: 10174 frame: 3 size(aa): 87

<400> 129

Gly Trp Pro Asp Ala Phe Arg Arg Ser Pro Gly Asn Val Arg Lys Pro  
 1 5 10 15  
 Val Ser Arg Ala Thr Ala Thr Ser Cys Cys Gly Val Thr Val Thr Pro  
 20 25 30  
 Pro Thr Pro Thr Glu Arg Pro Ser Thr Pro Gln Arg Pro Pro Gly Ser  
 35 40 45  
 Pro Arg Arg Pro Ala Gly Arg Cys Arg Pro Ala Pro Ala Pro Arg Arg  
 50 55 60  
 Thr Pro Gly Pro Gly Pro Gly Ala Ala Arg Arg Arg Ser Gly Arg Arg  
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75

65                      70                      75                      80  
Arg Arg Pro Pro Gly Pro Gly

85

<210>	130
<211>	88
<212>	PRT
<213>	Cyanophage S-2L

```
<220>
<221> misc_feature
<223> New ORF = left: 10005 right: 10268 frame: 1 size(aa): 88
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<400> 130

Arg 1	Pro	Arg	Arg	Pro 5	Pro	Arg	Gly	Arg	Arg 10	Arg	Arg	Asn	Gly	His 15	Arg
Gly	Arg	Pro	Asp 20	Gly	Pro	Gln	Val	Gly 25	Val	Gly	Leu	His	Gln 30	Pro	Leu
Gly	Glu	Arg 35	Leu	Gly	Leu	Gly	Arg 40	Gly	Gln	His	Gly	Val 45	Asp	Pro	Val
Ala	Asp 50	Gly	Gly	His	Leu	Gly 55	Leu	Asp	Asp	Gly	Glu 60	Arg	Leu	Val	Gln
Ala 65	His	Cys	Arg	Ser	Ser 70	Arg	Pro	Ala	Gly	Ser 75	Val	Trp	Ser	Ser	Ser 80
Arg	Met	Arg	Arg	Val 85	Ala	Cys	Ser								

<210>	131
<211>	522
<212>	PRT
<213>	Cyanophage S-2L

```
<220>
<221> misc_feature
<223> New ORF = left: 10078 right: 11643 frame: 2 size(aa): 522
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<400> 131

Val 1	Ser	Ala	Cys	Thr 5	Ser	Pro	Ser	Glu	Asn 10	Ala	Trp	Ala	Trp	Ala 15	Gly
Gly	Ser	Thr	Ala 20	Ser	Ile	Arg	Ser	Pro 25	Thr	Ala	Ala	Thr	Trp 30	Ala	Trp
Met	Thr	Ala 35	Ser	Val	Trp	Phe	Arg 40	Arg	Thr	Ala	Ala	Arg 45	Ala	Gly	Arg
Arg	Ala 50	Ala	Ser	Gly	Ala	Pro 55	Arg	Gly	Cys	Gly	Gly 60	Trp	Pro	Ala	Arg
Arg 65	Ser	Gly	Gly	Ser	Gly 70	Ser	Ala	Pro	Asp	Ser 75	Arg	Gly	Cys	Gly	Gly 80
Arg	Thr	Gly	Pro	Gly 85	Arg	Pro	Gly	Pro	Gly 90	Asp	Ser	Leu	Val	Ser 95	Leu
Arg	Gly	Val	Gly 100	Leu	Arg	Val	Gly	Phe 105	Arg	Val	Gly	Leu	Arg 110	Ile	Arg

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Gly Val Gly Leu Arg Val Glu Leu Leu Gly Leu Leu Gly Leu Leu  
 115 120 125  
 Ala Leu Asp Gly Val Pro Glu Leu Leu Asp Val His Ala Val Gly Gln  
 130 135 140  
 Pro Phe Ala Gly Leu Pro Asp Arg Gln Glu Gly Leu Gln Val Asp Ala  
 145 150 155 160  
 Ala Ile Asp Val Arg Leu Glu Val Glu Leu Arg Leu Leu Leu Ser Gln  
 165 170 175  
 Leu Gly Val Val Glu Val Ala Val Asp Asp Asp Arg Gly Arg Leu Pro  
 180 185 190  
 Ala Gly Val Leu Pro Thr Pro Val His Asp Asp Leu Glu Arg Arg Gly  
 195 200 205  
 Gln Val Ser Gly Asp Asp Arg Glu His Ala Val Gly Phe Gly Pro Val  
 210 215 220  
 Lys Cys Leu Gly Pro Leu Gly Leu Leu Glu Gly Leu Leu Leu Gly Glu  
 225 230 235 240  
 Asp Arg Asp Ala Gln Leu Gly Asp Leu Leu Leu Glu His Leu Gln Phe  
 245 250 255  
 Phe Leu Val Arg Leu Ala Ala Gly Pro Gly Asp Leu Ala Ile Leu Gly  
 260 265 270  
 Ala Pro Thr Asp Gly Val Leu Gln Gly Ala Val Asp Arg Glu Pro Asp  
 275 280 285  
 Leu Ala Ile Gly Val Gly Arg Val Gln Val Val Gly Leu Leu Val Val  
 290 295 300  
 Val Ala Leu Pro Ala Asp His Val Lys Asp Gly Leu Ala Gly Asn Arg  
 305 310 315 320  
 Gln His Leu Gly Gln Val Ala Ala Pro Leu Glu Met Gly Gln Val Glu  
 325 330 335  
 Met Gly Ala Val Leu Glu Arg Gly Pro Ala Glu Gln His Pro Leu Leu  
 340 345 350  
 Leu Ala Val Gly Arg Gly Gln Gly Asp Leu Phe Glu Cys Gly Val Ala  
 355 360 365  
 Ala Leu Val Leu Asp Leu Leu Pro Gly Gly Ala Gly Gln Ala Gln His  
 370 375 380  
 Leu Val Gly Ala Arg Gly Gln His Pro Asp Leu Leu Leu Asp Val Asp  
 385 390 395 400  
 Pro Val Leu Ala Gly Gly His Leu Asp Val Leu Pro Asp Pro His Leu  
 405 410 415  
 Leu Glu Ala Gly Ala Leu Pro Gly Val Val Pro Ala Ala Asp Gly Gly  
 420 425 430  
 Pro Ala Gly His Leu His Gln Lys Trp Leu Val Pro Gly Gln Pro Leu  
 435 440 445  
 Val Glu Gln Ala Leu Ala Phe Leu Ala Gly Val Val Gly Gln Asp Arg  
 450 455 460  
 Ala Met Pro Val Arg Asp Gly Gln Pro Glu Arg Tyr Pro Gly Glu Val  
 465 470 475 480

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Val Gln Gly Gly Ala Leu Thr Val His Val Phe Ala Pro Leu Leu Pro  
485 490 495  
Val Gly Leu Val Ala Pro Leu Gln Leu Asp Arg Leu Pro Glu Asp Gln  
500 505 510  
Ala Gly Ala Pro Arg Ile Arg Arg Ala Arg  
515 520

<210> 132  
<211> 134  
<212> PRT  
<213> Cyanophage S-2L  
<220>  
<221> misc\_feature  
<223> New ORF = left: 10178 right: 10579 frame: 3 size(aa): 134

<400> 132  
Arg Arg Ala Ser Gly Ser Gly Ala Leu Pro Leu Glu Pro Ala Gly Gly  
1 5 10 15  
Gln Arg Leu Glu Leu Leu Glu Asp Ala Ala Gly Gly Leu Leu Val Gly  
20 25 30  
Arg Glu Asp Pro Ala Gln Arg Leu Ile Arg Glu Ala Ala Glu Gly Glu  
35 40 45  
Leu Val Pro Asp Asp Gln Gly Leu Gly Ile His Ser Ser Val Ser Gly  
50 55 60  
Gly Ser Ala Ser Gly Ser Ala Ser Gly Ser Ala Ser Gly Ser Gly Val  
65 70 75 80  
Ser Ala Ser Gly Ser Ser Ser Ser Ser Val Ser Ser Ala Ser Ser Pro  
85 90 95  
Ser Met Val Ser Arg Ser Ser Ser Thr Ser Thr Leu Ser Gly Ser His  
100 105 110  
Ser Pro Val Cys Gln Thr Val Arg Lys Val Ser Arg Ser Met Pro Pro  
115 120 125  
Ser Met Tyr Ala Leu Arg  
130

<210> 133  
<211> 54  
<212> PRT  
<213> Cyanophage S-2L  
<220>  
<221> misc\_feature  
<223> New ORF = left: 10196 right: 10357 frame: -3 size(aa): 54

<400> 133  
Arg Val Asn Pro Gln Ala Leu Val Val Arg Asp Gln Phe Ala Leu Arg  
1 5 10 15  
Ser Leu Ser Asn Gln Ala Leu Ser Arg Ile Leu Pro Thr Tyr Glu Gln  
20 25 30  
Ala Thr Arg Arg Ile Leu Glu Glu Leu Gln Thr Leu Pro Ala Gly Arg  
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35

40

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Leu Glu Arg Gln Cys Ala  
50

&lt;210&gt; 134

&lt;211&gt; 92

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 10299 right: 10574 frame: 1 size(aa): 92

&lt;400&gt; 134

Phe Glu Arg Leu Arg Arg Ala Asn Trp Ser Arg Thr Thr Arg Ala Trp  
1 5 10 15

Gly Phe Thr Arg Gln Ser Pro Gly Gly Arg Pro Pro Gly Arg Leu Pro  
20 25 30

Gly Arg Pro Pro Asp Pro Gly Cys Arg Pro Pro Gly Arg Ala Pro Pro  
35 40 45

Arg Ser Pro Arg Pro Pro Arg Pro Arg Trp Cys Pro Gly Ala Pro Arg  
50 55 60

Arg Pro Arg Cys Arg Ala Ala Ile Arg Arg Ser Ala Arg Pro Ser Gly  
65 70 75 80

Arg Ser Pro Gly Arg Cys Arg His Arg Cys Thr Pro  
85 90

&lt;210&gt; 135

&lt;211&gt; 445

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 10354 right: 11688 frame: -2 size(aa): 445

&lt;400&gt; 135

Thr Ala Val His Arg Ala Gly Leu Pro Gly Gly Val His Pro Leu Pro  
1 5 10 15

Gly Pro Pro Asp Pro Gly Gly Ala Gly Leu Ile Leu Arg Lys Pro Ile  
20 25 30

Gln Leu Gln Gly Gly Asp Glu Ala Tyr Trp Glu Glu Trp Arg Lys Asp  
35 40 45

Val Asp Arg Gln Gly Ser Ser Leu Asp Asp Phe Ala Arg Val Thr Leu  
50 55 60

Gly Leu Ala Ile Ser Tyr Gly His Ser Ser Val Leu Ala Asp Tyr Thr  
65 70 75 80

Ser Glu Glu Arg Gln Ser Leu Leu Asp Gln Arg Leu Ala Gly Asp Lys  
85 90 95

Pro Phe Leu Val Gln Val Pro Cys Trp Ala Thr Ile Gly Arg Arg His  
100 105 110

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Asn Pro Arg Glu Gly Ser Gly Leu Gln Gln Val Arg Ile Arg Glu Tyr  
 115 120 125  
 Val Glu Val Pro Ala Gly Lys Tyr Gly Val Asn Val Glu Glu Gln Ile  
 130 135 140  
 Arg Val Leu Thr Pro Gly Ala Tyr Glu Val Leu Arg Leu Thr Gly Thr  
 145 150 155 160  
 Ala Trp Glu Lys Val Glu Asp Glu Ser Gly Asp Thr Thr Leu Lys Glu  
 165 170 175  
 Ile Pro Leu Ala Thr Thr Tyr Ser Gln Lys Glu Gly Val Leu Leu Ser  
 180 185 190  
 Arg Pro Pro Leu Glu Asp Cys Ala His Leu Asn Leu Ala His Phe Gln  
 195 200 205  
 Arg Arg Ser Asp Leu Thr Gln Val Leu Thr Ile Ala Gly Gln Pro Ile  
 210 215 220  
 Leu Asp Met Val Gly Trp Glu Gly Asp Asp Asp Glu Glu Ala Asp Asp  
 225 230 235 240  
 Leu Asp Pro Thr Asn Thr Asp Gly Glu Ile Gly Leu Ser Val Asn Ser  
 245 250 255  
 Ala Leu Gln Tyr Pro Ile Gly Gly Gly Ser Lys Tyr Cys Glu Ile Thr  
 260 265 270  
 Gly Ala Ser Cys Glu Ala His Gln Lys Glu Leu Glu Val Leu Lys Glu  
 275 280 285  
 Gln Ile Thr Gln Leu Gly Ile Ser Val Leu Thr Gln Gln Gln Thr Phe  
 290 295 300  
 Gln Glu Thr Glu Gly Ala Lys Thr Leu Asp Arg Ala Glu Ser Asn Ser  
 305 310 315 320  
 Met Leu Ser Val Ile Ala Arg Asp Leu Ala Ser Thr Leu Gln Ile Val  
 325 330 335  
 Met Asn Trp Cys Gly Glu Tyr Thr Gly Arg Glu Ala Ser Thr Val Val  
 340 345 350  
 Ile Asp Ser Asp Phe Asp His Ala Lys Leu Thr Lys Glu Glu Ala Glu  
 355 360 365  
 Leu Tyr Leu Lys Ala Tyr Ile Asp Gly Gly Ile Asp Leu Glu Thr Phe  
 370 375 380  
 Leu Thr Val Trp Gln Thr Gly Glu Trp Leu Pro Asp Ser Val Asp Val  
 385 390 395 400  
 Glu Glu Leu Arg Asp Thr Ile Glu Gly Glu Glu Ala Glu Glu Thr Glu  
 405 410 415  
 Glu Glu Leu Asp Pro Glu Ala Asp Thr Pro Asp Pro Glu Ala Asp Pro  
 420 425 430  
 Glu Ala Asp Pro Glu Ala Asp Pro Pro Glu Thr Asp Glu  
 435 440 445

<210> 136  
 <211> 79  
 <212> PRT  
 <213> Cyanophage S-2L

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<220>  
 <221> misc\_feature  
 <223> New ORF = left: 10361 right: 10597 frame: -3 size(aa): 79

<400> 136

Gly Gly Gly Gly Ala Leu Pro Gln Gly Val His Arg Trp Arg His Arg  
 1 5 10 15  
 Pro Gly Asp Leu Pro Asp Gly Leu Ala Asp Arg Arg Met Ala Ala Arg  
 20 25 30  
 Gln Arg Gly Arg Arg Gly Ala Pro Gly His His Arg Gly Arg Gly Gly  
 35 40 45  
 Arg Gly Asp Arg Gly Gly Ala Arg Pro Gly Gly Arg His Pro Gly Ser  
 50 55 60  
 Gly Gly Arg Pro Gly Ser Arg Pro Gly Gly Arg Pro Pro Gly Asp  
 65 70 75

<210> 137  
 <211> 186  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 10583 right: 11140 frame: 3 size(aa): 186

<400> 137

Ser Ser Ala Ser Ser Leu Val Ser Leu Ala Trp Ser Lys Ser Leu Ser  
 1 5 10 15  
 Met Thr Thr Val Asp Ala Ser Arg Pro Val Tyr Ser Pro His Gln Phe  
 20 25 30  
 Met Thr Ile Trp Ser Val Glu Ala Arg Ser Arg Ala Met Thr Glu Ser  
 35 40 45  
 Met Leu Leu Asp Ser Ala Arg Ser Ser Val Leu Ala Pro Ser Val Ser  
 50 55 60  
 Trp Lys Val Cys Cys Trp Val Arg Thr Glu Met Pro Ser Trp Val Ile  
 65 70 75 80  
 Cys Ser Leu Ser Thr Ser Ser Ser Phe Trp Cys Ala Ser Gln Leu Ala  
 85 90 95  
 Pro Val Ile Ser Gln Tyr Leu Glu Pro Pro Pro Met Gly Tyr Cys Lys  
 100 105 110  
 Ala Leu Leu Thr Glu Ser Pro Ile Ser Pro Ser Val Leu Val Gly Ser  
 115 120 125  
 Arg Ser Ser Ala Ser Ser Ser Ser Ser Pro Ser Gln Pro Thr Met Ser  
 130 135 140  
 Arg Met Gly Trp Pro Ala Ile Val Ser Thr Trp Val Arg Ser Leu Arg  
 145 150 155 160  
 Arg Trp Lys Trp Ala Arg Leu Arg Trp Ala Gln Ser Ser Ser Gly Gly  
 165 170 175

Arg Leu Ser Ser Thr Pro Ser Phe Trp Leu  
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<210> 138  
<211> 119  
<212> PRT  
<213> Cyanophage S-2L  
  
<220>  
<221> misc\_feature  
<223> New ORF = left: 10680 right: 11036 frame: -1 size(aa): 119

<400> 138

Arg Leu Pro Ala Ser Pro Ser Leu Thr Trp Ser Ala Gly Arg Ala Thr  
1 5 10 15  
Thr Thr Arg Arg Pro Thr Thr Trp Thr Arg Pro Thr Pro Met Ala Arg  
20 25 30  
Ser Gly Ser Arg Ser Thr Ala Pro Cys Ser Thr Pro Ser Val Gly Ala  
35 40 45  
Pro Ser Ile Ala Arg Ser Pro Gly Pro Ala Ala Arg Arg Thr Arg Lys  
50 55 60  
Asn Trp Arg Cys Ser Arg Ser Arg Ser Pro Ser Trp Ala Ser Arg Ser  
65 70 75 80  
Ser Pro Ser Ser Arg Pro Ser Lys Arg Pro Arg Gly Pro Arg His Leu  
85 90 95  
Thr Gly Pro Asn Pro Thr Ala Cys Ser Arg Ser Ser Pro Glu Thr Trp  
100 105 110  
Pro Arg Arg Ser Arg Ser Ser  
115

<210> 139  
<211> 87  
<212> PRT  
<213> Cyanophage S-2L  
  
<220>  
<221> misc\_feature  
<223> New ORF = left: 10751 right: 11011 frame: -3 size(aa): 87

<400> 139

His Gly Arg Leu Gly Gly Arg Arg Arg Arg Gly Gly Arg Arg Pro Gly  
1 5 10 15  
Pro Asp Gln His Arg Trp Arg Asp Arg Ala Leu Gly Gln Gln Arg Leu  
20 25 30  
Ala Val Pro His Arg Trp Gly Leu Gln Val Leu Arg Asp His Arg Gly  
35 40 45  
Gln Leu Arg Gly Ala Pro Glu Arg Thr Gly Gly Ala Gln Gly Ala Asp  
50 55 60  
His Pro Ala Gly His Leu Gly Pro His Pro Ala Ala Asp Leu Pro Arg  
65 70 75 80  
Asp Arg Gly Gly Gln Asp Thr  
85

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<210> 140  
 <211> 51  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 10929 right: 11081 frame: 1 size(aa): 51

<400> 140

Pro Arg Ala Arg Ser Arg His Arg Cys Trp Ser Gly Pro Gly Arg Arg  
 1 5 10 15  
 Pro Pro Arg Arg Arg Arg Pro Pro Ser Arg Pro Cys Gln Gly Trp Ala  
 20 25 30  
 Gly Arg Gln Ser Ser Ala Pro Gly Ser Gly Arg Cys Ala Val Gly Asn  
 35 40 45  
 Gly Pro Gly  
 50

<210> 141  
 <211> 152  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 11015 right: 11470 frame: -3 size(aa): 152

<400> 141

Leu Gly Pro Gly Arg Leu His Gln Arg Gly Thr Pro Glu Pro Ala Arg  
 1 5 10 15  
 Pro Ala Ala Gly Arg Gly Gln Ala Ile Ser Gly Ala Gly Ala Leu Leu  
 20 25 30  
 Gly His His Arg Pro Pro Ala Gln Pro Pro Gly Gly Leu Arg Pro Pro  
 35 40 45  
 Ala Gly Ala Asp Pro Gly Val Arg Arg Gly Ala Arg Arg Gln Val Arg  
 50 55 60  
 Gly Gln Arg Arg Gly Ala Asp Pro Gly Ala Asp Pro Gly Arg Leu Arg  
 65 70 75 80  
 Gly Ala Ala Pro Asp Arg His Arg Leu Gly Glu Gly Arg Gly Arg Glu  
 85 90 95  
 Arg Arg His His Thr Gln Arg Asp Pro Pro Gly His Asp Leu Gln Pro  
 100 105 110  
 Lys Gly Gly Gly Ala Ala Gln Pro Ala Pro Ala Arg Gly Leu Arg Pro  
 115 120 125  
 Ser Gln Pro Gly Pro Phe Pro Thr Ala Gln Arg Pro Asp Pro Gly Ala  
 130 135 140  
 Asp Asp Cys Arg Pro Ala His Pro  
 145 150

<210> 142  
 <211> 55



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<212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 11052 right: 11216 frame: -1 size(aa): 55

<400> 142  
 Pro Ala Pro Pro Gly Arg Arg Ser Arg Thr Arg Ala Ala Thr Pro His  
 1 5 10 15  
 Ser Lys Arg Ser Pro Trp Pro Arg Pro Thr Ala Lys Arg Arg Gly Cys  
 20 25 30  
 Cys Ser Ala Gly Pro Arg Ser Arg Thr Ala Pro Ile Ser Thr Trp Pro  
 35 40 45  
 Ile Ser Asn Gly Ala Ala Thr  
 50 55

<210> 143  
 <211> 72  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 11237 right: 11452 frame: 3 size(aa): 72

<400> 143  
 Ala Pro Gly Val Ser Thr Arg Ile Cys Ser Ser Thr Leu Thr Pro Tyr  
 1 5 10 15  
 Leu Pro Ala Gly Thr Ser Thr Tyr Ser Arg Ile Arg Thr Cys Trp Arg  
 20 25 30  
 Pro Glu Pro Ser Arg Gly Leu Cys Arg Arg Pro Met Val Ala Gln Gln  
 35 40 45  
 Gly Thr Cys Thr Arg Asn Gly Leu Ser Pro Ala Ser Arg Trp Ser Ser  
 50 55 60  
 Arg Leu Trp Arg Ser Ser Leu Val  
 65 70

<210> 144  
 <211> 84  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 11250 right: 11501 frame: -1 size(aa): 84

<400> 144  
 Arg Ser Gly Trp Pro Ser Leu Thr Gly Ile Ala Arg Ser Trp Pro Thr  
 1 5 10 15  
 Thr Pro Ala Arg Asn Ala Arg Ala Cys Ser Thr Ser Gly Trp Pro Gly  
 20 25 30  
 Thr Ser His Phe Trp Cys Arg Cys Pro Ala Gly Pro Pro Ser Ala Ala  
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35                      40                      45  
 Gly Thr Thr Pro Gly Arg Ala Pro Ala Ser Ser Arg Cys Gly Ser Gly  
   50                      55                      60  
 Ser Thr Ser Arg Cys Pro Pro Ala Ser Thr Gly Ser Thr Ser Arg Ser  
   65                      70                      75                      80  
 Arg Ser Gly Cys

<210> 145  
 <211> 239  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 11277 right: 11993 frame: 1 size(aa): 239

<400> 145

Pro Arg Thr Cys Arg Arg Ala Pro Arg Arg Thr Pro Gly Ser Ala Pro  
   1                      5                      10                      15  
 Ala Gly Gly Arg Ser Pro Pro Gly Gly Cys Ala Gly Gly Arg Trp Trp  
                     20                      25                      30  
 Pro Ser Arg Ala Pro Ala Pro Glu Met Ala Cys Pro Arg Pro Ala Ala  
                     35                      40                      45  
 Gly Arg Ala Gly Ser Gly Val Pro Arg Trp Cys Ser Arg Pro Gly Pro  
   50                      55                      60  
 Ser Tyr Ala Arg Lys Arg Trp Pro Ala Arg Ala Leu Pro Gly Arg Ser  
   65                      70                      75                      80  
 Arg Pro Gly Arg Ser Pro Asp Gly Pro Arg Leu Cys Ala Thr Pro Pro  
                     85                      90                      95  
 Ser Arg Pro Arg Arg Pro Pro Ala Ala Gly Ser Ala Ser Gly Gly Ser  
                     100                      105                      110  
 Gly Arg Arg Pro Pro Asp Gln Ala Gly Gln Val Gly Gly Val His Arg  
                     115                      120                      125  
 Pro Gly Asp Pro Pro Asp Val Leu Pro Phe Thr Leu Pro Gly Glu Pro  
   130                      135                      140  
 Gly Gln Val Val Ile Ala Glu Arg Pro Glu Val Pro Asp Ala Leu Gln  
   145                      150                      155                      160  
 Val Gly Pro Asp His Leu Pro Ala Ala Gln His His Pro Val Gly Gln  
                     165                      170                      175  
 Val Arg Phe Val Arg Val Val Arg Arg Gln Gly Val Ser Ser Gln Leu  
                     180                      185                      190  
 Cys Leu Gly Gln Gly Leu Gly Ile Gln Asp Arg Val Ile Pro Pro Ala  
                     195                      200                      205  
 Glu Gly Gly Ile His Arg Gly Gly Gly Gly Arg Leu Ser His Thr Pro  
   210                      215                      220  
 Glu Leu Arg Pro Ala Arg Ser Trp Lys Ser Arg Asn Ala Ser Pro  
   225                      230                      235

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<210> 146  
 <211> 52  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 11474 right: 11629 frame: -3 size(aa): 52

<400> 146  
 Ser Gly Gly Arg Arg Pro Asp Pro Pro Glu Ala Asp Pro Ala Ala Gly  
 1 5 10 15  
 Gly Arg Arg Gly Leu Leu Gly Gly Val Ala Gln Arg Arg Gly Pro Ser  
 20 25 30  
 Gly Leu Leu Pro Gly Arg Leu Arg Pro Gly Asn Ala Arg Ala Gly His  
 35 40 45  
 Leu Leu Arg Ala  
 50

<210> 147  
 <211> 128  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 11570 right: 11953 frame: 3 size(aa): 128

<400> 147  
 Ala Ser Ser Pro Pro Cys Ser Trp Ile Gly Phe Arg Arg Ile Arg Pro  
 1 5 10 15  
 Ala Pro Pro Gly Ser Gly Gly Pro Gly Arg Gly Cys Thr Pro Pro Gly  
 20 25 30  
 Arg Pro Ala Arg Cys Thr Ala Val Tyr Ala Pro Gly Gly Thr Gly Ala  
 35 40 45  
 Gly Ser Asn Arg Arg Thr Pro Gly Gly Thr Gly Arg Pro Pro Gly Trp  
 50 55 60  
 Pro Gly Ser Pro Pro Ser Gly Ala Ala Ser Pro Gly Arg Ser Gly Pro  
 65 70 75 80  
 Val Arg Ser Gly Arg Pro Ala Pro Gly Ser Leu Leu Pro Ala Leu Pro  
 85 90 95  
 Arg Pro Gly Pro Arg Asp Ser Gly Pro Cys Asp Pro Ala Ser Arg Gly  
 100 105 110  
 Arg Asp Pro Ser Gly Arg Arg Arg Ala Ser Gln Ser Tyr Pro Gly Ala  
 115 120 125

<210> 148  
 <211> 186  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 11613 right: 12170 frame: -1 size(aa): 186  
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<400> 148

Pro Pro Thr Ala Ser Ala Thr Ile Ala Phe Thr Pro Gly Ala Arg Arg  
1 5 10 15  
Pro Ser Arg Ala Ser Glu Ala Ser Ala Ser Arg Arg Gly Pro Arg Ala  
20 25 30  
Ser Pro Ser Thr Arg Ser Pro Gly Ser Ser Thr Gly Arg Thr Ala Trp  
35 40 45  
Gly Thr Trp Pro Cys Arg Pro Ala Thr Ala Ser Arg Ala Gly Val Pro  
50 55 60  
Ala Leu Pro Thr Ser Arg Trp Ser Lys Leu Arg Gly Met Thr Glu Thr  
65 70 75 80  
Pro Ser Ser Ala Pro Met Asp Pro Ala Leu Gly Trp Arg Asp His Thr  
85 90 95  
Val Leu Asn Pro Glu Ala Leu Ala Glu Ala Lys Leu Gly Gly Asp Ser  
100 105 110  
Leu Ala Pro Asp Asp Pro Asn Glu Pro Asp Leu Thr Tyr Arg Val Met  
115 120 125  
Leu Arg Arg Trp Glu Val Ile Arg Ala Asn Leu Glu Gly Val Arg Tyr  
130 135 140  
Leu Arg Ala Phe Cys Asp Tyr Tyr Leu Pro Arg Phe Pro Arg Glu Arg  
145 150 155 160  
Lys Arg Gln Tyr Ile Gly Arg Val Ser Arg Ala Val Tyr Thr Pro Tyr  
165 170 175  
Leu Ala Arg Leu Ile Arg Gly Ala Pro Ala  
180 185

<210> 149

<211> 81

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 11692 right: 11934 frame: -2 size(aa): 81

<400> 149

Asp Ala Leu Leu Arg Pro Asp Gly Ser Arg Pro Arg Leu Ala Gly Ser  
1 5 10 15  
His Gly Pro Glu Ser Arg Gly Pro Gly Arg Gly Lys Ala Gly Arg Arg  
20 25 30  
Leu Pro Gly Ala Gly Arg Pro Glu Arg Thr Gly Pro Asp Leu Pro Gly  
35 40 45  
Asp Ala Ala Pro Leu Gly Gly Asp Pro Gly Gln Pro Gly Gly Arg Pro  
50 55 60  
Val Pro Pro Gly Val Leu Arg Leu Leu Pro Ala Pro Val Pro Pro Gly  
65 70 75 80  
Ala

<210> 150  
 <211> 438  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 11890 right: 13203 frame: 2 size(aa): 438

<400> 150

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Ser Arg Gln Pro Arg Ala Gly Ser Ile Gly Ala Glu Glu Gly Val Ser
1      5      10      15
Val Ile Pro Arg Ser Leu Asp Gln Arg Glu Val Gly Arg Ala Gly Thr
      20      25      30
Pro Ala Leu Asp Ala Val Ala Gly Arg Gln Gly Gln Val Pro Gln Ala
      35      40      45
Val Arg Pro Val Leu Asp Pro Gly Leu Leu Val Asp Gly Glu Ala Leu
      50      55      60
Gly Pro Leu Leu Asp Ala Asp Ala Ser Glu Ala Leu Asp Gly Leu Leu
      65      70      75      80
Ala Pro Gly Val Asn Ala Ile Val Ala Leu Ala Val Gly Gly His Asp
      85      90      95
Gln Arg Val Arg Arg Val Glu Leu Val Leu Asp Ala Pro Gly Gly Val
      100      105      110
Arg Gly Glu Asp Leu Glu Ala Val Leu Pro Glu Asp Arg Met Val Gly
      115      120      125
Asp Ala Gly Leu Gly Gly Arg Leu Pro Ala Val Ala Arg Arg Val Gly
      130      135      140
Ala Asp His Asp Leu Ala Pro Leu Glu Pro Leu Gly Gln Val Ala Pro
      145      150      155      160
His Leu Val Gly Val Ala Val Arg His Val Asp Leu Val Pro Leu Gln
      165      170      175
Gln Pro Leu Ala Arg Glu Asp Arg Ala Asp Asp Ala Gly His His Arg
      180      185      190
His Val Lys Val Glu Ala Asp Val Asp Arg Ala Ala Val Val Leu Gly
      195      200      205
Ala Leu Pro Asp Val Leu Leu Ala Glu Val Val Val Gly Pro Ala Gly
      210      215      220
Ser Ser Leu Glu Ala Gly Leu Val Leu Leu Ala Glu Gly Ala Gly Val
      225      230      235      240
Glu Val Val Pro Gly Leu Leu Asp Leu Gly Leu Gly Asp Pro Ala Ala
      245      250      255
Leu Asp Gly Gly Glu Leu Glu Ala Gly Pro Phe Arg Val Leu Leu His
      260      265      270
Arg Leu Pro Glu Leu Val Val Met Val Glu Ala Leu Arg Gly Gly Asp
      275      280      285

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Leu Pro Ala Arg Pro Leu Leu Val Arg Gln Arg Arg Leu Gln His Leu  
 290 295 300  
 Gly Pro Glu Leu Arg Leu Gly Glu Arg Arg Leu Val Asp Asp Gly Pro  
 305 310 315  
 Gly Gln Ala Val Ala Pro Glu Ala Val Gly Val Val Arg Pro Lys Glu  
 325 330 335  
 Arg Gln Arg Arg Pro Val Pro Gln Val Asp Pro Glu Leu Gly Val Val  
 340 345 350  
 Asp Ala Gly Asp Ile Cys Arg Val Asp Gln Leu Leu Glu Ala Leu Pro  
 355 360 365  
 Gly Asp Pro Leu Gly Arg Pro Val Gly Arg Gly Asp Val Pro Val Val  
 370 375 380  
 Ala Leu Arg Val Gly His Ala Pro Val Pro Glu Ala Asp Gln Gly Gln  
 385 390 395 400  
 Val Arg Leu Ala Glu Ala Pro Ala Ala Gly Glu Gln Asp Val Ala Pro  
 405 410 415  
 Ala Ala Arg Val Asp Leu Arg Leu Gly Ala Ala Glu Leu Pro Asp Arg  
 420 425 430  
 Leu Ala Leu Ile Lys Ser  
 435

&lt;210&gt; 151

&lt;211&gt; 176

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; &gt;New ORF = left: 11942 right: 12469 frame: -3 size(aa): 176

&lt;400&gt; 151

Arg Val Gly Asp Gly Arg Arg His Leu Leu Asp Pro Pro Gly Gln Ala  
 1 5 10 15  
 Ala Ala Ala Val Gly Arg Asp Gln His Ala Glu Gln Gln His Arg Arg  
 20 25 30  
 Gly Gly Ala Leu Pro Gly Arg Ala Val Pro Gly Ala Gln Gly Arg Gly  
 35 40 45  
 Leu Pro Arg Pro Asp Gly Gln Gln Pro Glu Asp Val Arg Arg Gly Arg  
 50 55 60  
 Arg His Arg Pro Tyr Asp Pro Pro Glu Ala Arg Pro Gln Gly Pro His  
 65 70 75 80  
 Pro Glu Leu Pro Leu Gly Arg Gln Gly Gln Ala Gln Arg Asp Glu Arg  
 85 90 95  
 Ala Gly His Asp Arg Arg Arg Arg Ala Pro Leu Ser His Ser Pro Pro  
 100 105 110  
 Val Gln Glu Asp His Gln Gly Pro Pro Arg Arg Leu Arg Gln Gly Gly  
 115 120 125  
 Gly Arg Gly Leu Arg His Arg Gln Glu Ala Arg Asp Arg Ala Leu Asp  
 130 135 140

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Gly Arg Pro Gly Val Pro Gly Pro Val Gly Leu Gln Pro Arg Gln Gly  
 145 150 155 160  
 Leu Ala Phe Arg Leu Phe Gln Leu Leu Ala Gly Leu Ser Ser Gly Val  
 165 170 175

<210> 152  
 <211> 448  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> >New ORF = left: 11956 right: 13299 frame: -2 size(aa): 448

<400> 152

Gly Gly Gly Tyr Gly Arg Arg Thr Arg Tyr Met Leu Phe Pro Ala Thr  
 1 5 10 15  
 Cys Gly Gly Thr Ile Leu Gly Ser Arg Ser Gly Arg Gly Ser Asn Leu  
 20 25 30  
 Ala Phe Asp Glu Arg Gln Ser Ile Arg Glu Leu Ser Gly Pro Gln Ala  
 35 40 45  
 Gln Ile Tyr Thr Cys Gly Arg Arg Asn Val Leu Leu Thr Cys Gly Arg  
 50 55 60  
 Arg Phe Gly Lys Thr His Leu Ala Leu Ile Arg Leu Arg Asn Trp Gly  
 65 70 75 80  
 Met Ser His Pro Glu Gly Asn Tyr Trp Tyr Val Ala Pro Thr Tyr Arg  
 85 90 95  
 Ala Ala Lys Arg Ile Ala Trp Lys Arg Leu Lys Lys Leu Ile Asp Pro  
 100 105 110  
 Thr Tyr Val Ala Gly Ile Asn Asn Thr Glu Leu Arg Ile Asp Leu Trp  
 115 120 125  
 Asn Gly Ala Thr Leu Thr Leu Phe Gly Ala Asp Asn Pro Asp Ser Leu  
 130 135 140  
 Arg Gly Asp Ser Leu Ser Gly Ala Val Ile Asp Glu Ala Ala Phe Thr  
 145 150 155 160  
 Lys Pro Glu Leu Trp Thr Glu Val Leu Gln Pro Ala Leu Ser Asp Gln  
 165 170 175  
 Glu Gly Pro Cys Trp Gln Ile Thr Thr Pro Lys Gly Phe Asn His Tyr  
 180 185 190  
 His Glu Leu Trp Glu Ser Val Glu Glu Asp Pro Glu Trp Ala Arg Phe  
 195 200 205  
 Glu Phe Thr Thr Ile Gln Gly Gly Arg Val Ser Glu Ala Glu Ile Glu  
 210 215 220  
 Lys Ala Arg Asn His Leu Asp Pro Arg Thr Phe Arg Gln Glu Tyr Glu  
 225 230 235 240  
 Ala Ser Phe Glu Ala Ala Ala Gly Arg Ala Tyr Tyr Asp Phe Gly Gln  
 245 250 255  
 Glu Asn Ile Trp Glu Gly Ala Glu Asp Asn Gly Gly Thr Val Tyr Val

260 265 270  
 Gly Leu Asp Phe Asn Val Ser Val Met Ala Gly Val Ile Cys Ser Ile  
 275 280 285  
 Leu Pro Gly Lys Arg Leu Leu Gln Trp Asp Glu Ile Asn Met Pro Asn  
 290 295 300  
 Ser Asn Thr Asp Glu Val Gly Arg Tyr Leu Ala Glu Arg Phe Gln Gly  
 305 310 315 320  
 Arg Lys Val Val Val Cys Pro Asp Pro Thr Gly Asn Ser Arg Lys Thr  
 325 330 335  
 Ser Ala Glu Ala Gly Val Thr Asp His Thr Ile Leu Arg Lys His Gly  
 340 345 350  
 Leu Lys Val Leu Thr Pro Asn Ser Pro Trp Gly Val Lys Asp Lys Leu  
 355 360 365  
 Asn Ala Thr Asn Ala Leu Val Met Thr Ala Asp Gly Glu Arg His Tyr  
 370 375 380  
 Arg Ile His Pro Arg Cys Lys Lys Thr Ile Lys Gly Leu Arg Gly Val  
 385 390 395 400  
 Cys Val Lys Glu Gly Ala Glu Gly Phe Ala Ile Asp Lys Lys Pro Gly  
 405 410 415  
 Ile Glu His Trp Thr Asp Gly Leu Gly Tyr Leu Ala Leu Ser Ala Cys  
 420 425 430  
 Asn Arg Val Lys Gly Trp Arg Ser Gly Ser Ser Asn Phe Ser Leu Val  
 435 440 445  
 <210> 153  
 <211> 61  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> >New ORF = left: 11957 right: 12139 frame: 3 size(aa): 61

<400> 153  
 Thr Ser Glu Lys Leu Glu Glu Pro Glu Arg Gln Pro Leu Thr Arg Leu  
 1 5 10 15  
 Gln Ala Asp Arg Ala Arg Tyr Pro Arg Pro Ser Val Gln Cys Ser Ile  
 20 25 30  
 Pro Gly Phe Leu Ser Met Ala Lys Pro Ser Ala Pro Ser Leu Thr Gln  
 35 40 45  
 Thr Pro Arg Arg Pro Leu Met Val Phe Leu His Arg Gly  
 50 55 60  
 <210> 154  
 <211> 70  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> >New ORF = left: 12152 right: 12361 frame: 3 size(aa): 70



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<400> 154

Trp Arg Ser Pro Ser Ala Val Met Thr Ser Ala Phe Val Ala Leu Ser  
 1 5 10 15  
 Leu Ser Leu Thr Pro Gln Gly Glu Phe Gly Val Arg Thr Leu Arg Pro  
 20 25 30  
 Cys Phe Arg Arg Ile Val Trp Ser Val Thr Pro Ala Ser Ala Asp Val  
 35 40 45  
 Phe Arg Leu Leu Pro Val Gly Ser Gly Gln Thr Thr Thr Leu Arg Pro  
 50 55 60  
 Trp Asn Arg Ser Ala Arg  
 65 70

<210> 155

<211> 95

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> >New ORF = left: 12174 right: 12458 frame: -1 size(aa): 95

<400> 155

Trp Pro Ala Ser Ser Ala Arg Ser Ser Arg Ala Ser Gly Cys Cys Ser  
 1 5 10 15  
 Gly Thr Arg Ser Thr Cys Arg Thr Ala Thr Pro Thr Arg Trp Gly Ala  
 20 25 30  
 Thr Trp Pro Ser Gly Ser Arg Gly Ala Arg Ser Trp Ser Ala Pro Thr  
 35 40 45  
 Arg Arg Ala Thr Ala Gly Arg Arg Pro Pro Arg Pro Ala Ser Pro Thr  
 50 55 60  
 Ile Arg Ser Ser Gly Ser Thr Ala Ser Arg Ser Ser Pro Arg Thr Pro  
 65 70 75 80  
 Pro Gly Ala Ser Arg Thr Ser Ser Thr Arg Arg Thr Arg Trp Ser  
 85 90 95

<210> 156

<211> 146

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> >New ORF = left: 12462 right: 12899 frame: -1 size(aa): 146

<400> 156

Arg Ser Leu Gly Arg Thr Thr Pro Thr Ala Ser Gly Ala Thr Ala Cys  
 1 5 10 15  
 Pro Gly Pro Ser Ser Thr Arg Arg Arg Ser Pro Ser Arg Ser Ser Gly  
 20 25 30  
 Pro Arg Cys Cys Ser Arg Arg Cys Arg Thr Arg Arg Gly Arg Ala Gly  
 35 40 45

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Arg Ser Pro Pro Arg Arg Ala Ser Thr Ile Thr Thr Ser Ser Gly Ser  
50 55 60  
Arg Trp Arg Arg Thr Arg Asn Gly Pro Ala Ser Ser Ser Pro Pro Ser  
65 70 75 80  
Arg Ala Ala Gly Ser Pro Arg Pro Arg Ser Arg Arg Pro Gly Thr Thr  
85 90 95  
Ser Thr Pro Ala Pro Ser Ala Arg Ser Thr Arg Pro Ala Ser Arg Leu  
100 105 110  
Leu Pro Ala Gly Pro Thr Thr Thr Ser Ala Arg Arg Thr Ser Gly Arg  
115 120 125  
Ala Pro Arg Thr Thr Ala Ala Arg Ser Thr Ser Ala Ser Thr Leu Thr  
130 135 140

Cys Arg  
145

<210> 157

<211> 240

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> >New ORF = left: 12473 right: 13192 frame: -3 size(aa): 240

<400> 157

Ala Pro Val Asp Pro Gly Ala Gln Arg Pro Pro Gly Ala Asp Leu His  
1 5 10 15  
Val Arg Pro Ala Gln Arg Pro Ala His Leu Arg Pro Ala Leu Arg Gln  
20 25 30  
Asp Ala Pro Gly Pro Asp Pro Pro Pro Glu Leu Gly His Val Pro Pro  
35 40 45  
Gly Gly Gln Leu Leu Val Arg Arg Pro Asp Leu Pro Gly Gly Gln Ala  
50 55 60  
Asp Arg Leu Glu Ala Pro Gln Glu Ala Asp Arg Pro Asp Ile Cys Arg  
65 70 75 80  
Arg His Gln Gln His Arg Ala Pro Asp Arg Pro Val Glu Arg Gly Asp  
85 90 95  
Ala Asp Ala Leu Trp Gly Gly Gln Pro Arg Gln Pro Pro Gly Arg Gln  
100 105 110  
Pro Val Arg Gly Arg His Arg Arg Gly Gly Val His Gln Ala Gly Ala  
115 120 125  
Leu Asp Arg Gly Ala Ala Ala Gly Ala Val Gly Pro Gly Gly Ala Val  
130 135 140  
Leu Ala Asp His His Pro Glu Gly Leu Gln Pro Leu Pro Arg Ala Leu  
145 150 155 160  
Gly Val Gly Gly Gly Gly Pro Gly Met Gly Pro Leu Arg Val His His  
165 170 175  
His Pro Gly Arg Pro Gly Leu Arg Gly Arg Asp Arg Glu Gly Pro Glu  
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180 185 190

Pro Pro Arg Pro Pro His Leu Pro Pro Gly Val Arg Gly Gln Leu Arg  
195 200 205

Gly Cys Cys Arg Pro Gly Leu Leu Arg Leu Arg Pro Gly Glu His Leu  
210 215 220

Gly Gly Arg Arg Gly Gln Arg Arg His Gly Leu Arg Arg Pro Arg Leu  
225 230 235 240

<210> 158  
 <211> 65  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> >New ORF = left: 12474 right: 12668 frame: 1 size(aa): 65

<400> 158

Ser Arg Gly Arg Arg Arg Pro Cys Arg Arg Cys Pro Arg Arg Pro Pro  
1 5 10 15

Arg Cys Ser Pro Gly Arg Ser Arg Ser Arg Pro Gly Arg Gln Gln Pro  
20 25 30

Arg Ser Trp Pro Arg Thr Pro Gly Gly Arg Cys Gly Gly Arg Gly Gly  
35 40 45

Ser Gly Pro Ser Arg Ser Arg Pro Arg Arg Pro Gly Arg Pro Gly Trp  
50 55 60

Trp  
65

<210> 159  
 <211> 58  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> >New ORF = left: 12551 right: 12724 frame: 3 size(aa): 58

<400> 159

Ala Arg Pro Ala Ala Ala Ser Lys Leu Ala Ser Tyr Ser Trp Arg Lys  
1 5 10 15

Val Arg Gly Ser Arg Trp Phe Arg Ala Phe Ser Ile Ser Ala Ser Glu  
20 25 30

Thr Arg Pro Pro Trp Met Val Val Asn Ser Lys Arg Ala His Ser Gly  
35 40 45

Ser Ser Ser Thr Asp Ser Gln Ser Ser Trp  
50 55

<210> 160  
 <211> 96  
 <212> PRT  
 <213> Cyanophage S-2L

<220>

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&lt;221&gt; misc\_feature

&lt;223&gt; &gt;New ORF = left: 12728 right: 13015 frame: 3 size(aa): 96

&lt;400&gt; 160

Trp Leu Lys Pro Phe Gly Val Val Ile Cys Gln His Gly Pro Ser Trp  
 1 5 10 15  
 Ser Asp Ser Ala Gly Cys Ser Thr Ser Val Gln Ser Ser Gly Leu Val  
 20 25 30  
 Asn Ala Ala Ser Ser Met Thr Ala Pro Asp Arg Leu Ser Pro Arg Arg  
 35 40 45  
 Leu Ser Gly Leu Ser Ala Pro Lys Ser Val Ser Val Ala Pro Phe His  
 50 55 60  
 Arg Ser Ile Arg Ser Ser Val Leu Leu Met Pro Ala Thr Tyr Val Gly  
 65 70 75 80  
 Ser Ile Ser Phe Leu Arg Arg Phe Gln Ala Ile Arg Leu Ala Ala Arg  
 85 90 95

&lt;210&gt; 161

&lt;211&gt; 151

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; &gt;New ORF = left: 13173 right: 13625 frame: 1 size(aa): 151

&lt;400&gt; 161

Ala Pro Gly Ser Thr Gly Ala His Gln Lys Leu Gly Trp Ile Pro Gly  
 1 5 10 15  
 Pro Thr Gly Ser Arg Gly Ser Cys Arg Arg Arg Trp Leu Gly Arg Ala  
 20 25 30  
 Cys Ser Gly Tyr Asp Ala His Ile Leu His Leu Asn Ser Gly Ser Val  
 35 40 45  
 Pro Gln Leu Gln Asp Glu Leu Leu Pro Ile Glu Ala Val Asp Leu Arg  
 50 55 60  
 Leu Arg Glu His Ala Lys Gln Val Leu Glu Ser Gly Leu Gly Asp Arg  
 65 70 75 80  
 Pro Val Pro Ala Pro Glu Ala Ala Val Gly Pro Trp Val Arg Glu Gly  
 85 90 95  
 Pro Val Ser Gln Pro Gly Gln Pro Leu Val Glu Pro Val Gly Gln His  
 100 105 110  
 His Val Phe Leu Ile Val Arg Ser Asn Trp Asn Met Ser Ser Ser Cys  
 115 120 125  
 Thr Ser Thr Ser Asn Thr Glu Ser Ile Arg Arg Arg Phe Ile Cys Ser  
 130 135 140  
 Ile Ser Arg Cys Trp Thr Ser  
 145 150

&lt;210&gt; 162

&lt;211&gt; 90

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<212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> >New ORF = left: 13199 right: 13468 frame: -3 size(aa): 90

<400> 162

Glu Thr Gly Pro Ser Leu Thr Gln Gly Pro Thr Ala Ala Ser Gly Ala  
 1 5 10 15  
 Gly Thr Gly Arg Ser Pro Arg Pro Asp Ser Arg Thr Cys Leu Ala Cys  
 20 25 30  
 Ser Arg Arg Arg Ser Thr Ala Ser Ile Gly Arg Ser Ser Ser Cys  
 35 40 45  
 Ser Cys Gly Thr Glu Pro Leu Leu Arg Trp Arg Ile Trp Ala Ser Tyr  
 50 55 60  
 Pro Leu His Ala Leu Pro Ser His Leu Arg Arg His Asp Pro Arg Leu  
 65 70 75 80  
 Pro Val Gly Pro Gly Ile Gln Pro Ser Phe  
 85 90

<210> 163  
 <211> 312  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> >New ORF = left: 13206 right: 14141 frame: -1 size(aa): 312

<400> 163

Pro Arg Pro Ser Ala Pro Ser Ser Pro Ser Thr Gly Pro Ala Pro Gly  
 1 5 10 15  
 Pro Glu Pro Ile Thr Ala Pro Cys Ala Thr Ser Pro Val Pro Ile Pro  
 20 25 30  
 Pro Pro Ser His Asp Thr Pro Asp His Arg Asp Leu Arg Ala Pro Glu  
 35 40 45  
 Gly Val Pro His Gln Pro Val Gly Asp Arg Pro Asp Asp Leu Pro Ala  
 50 55 60  
 Glu His Arg Arg Thr His Val Ala Arg Leu Ala Pro Val Pro Gly Leu  
 65 70 75 80  
 Gly Arg Cys Arg Arg His Ala Pro Ala His Gly Pro Pro Gly Leu Arg  
 85 90 95  
 Val Cys Pro Gly Pro Arg Pro Gly Arg Asp Pro Asp Gly Arg Arg Pro  
 100 105 110  
 Asp Ala Pro Gln Asp Pro Gly Ala Gln Gly Ala Pro Gly Arg His Arg  
 115 120 125  
 Gly Pro Asp Arg Pro Gly Gly Gly Arg Ala Arg Gly Asp His Gly Pro  
 130 135 140  
 Gly Gly Gln Arg Ala Leu Glu Val Leu Arg His Arg Arg Gly Arg Pro  
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145                      150                      155                      160  
 Val Pro Gln Gly Gln Arg Pro Gly Arg Pro Arg Leu Arg Arg Pro Ala  
                                  165                      170                      175  
 Pro Ala Asp Gly Ala Asp Glu Thr Ala Pro Asp Gly Leu Gly Val Gly  
                                  180                      185                      190  
 Cys Gly Gly Ala Gly Arg Ala His Val Pro Val Arg Ala Asp Asp Gln  
                                  195                      200                      205  
 Glu Asp Val Met Leu Pro His Arg Leu His Glu Arg Leu Ala Arg Leu  
                                  210                      215                      220  
 Arg Asp Trp Ala Leu Ser His Pro Gly Ala Asp Cys Arg Leu Trp Cys  
                                  225                      230                      235                      240  
 Gly Asp Arg Ala Ile Ala Glu Ala Arg Phe Glu Asp Leu Leu Gly Met  
                                  245                      250                      255  
 Leu Ala Gln Ala Glu Ile Asp Cys Phe Asp Arg Gln Glu Leu Val Leu  
                                  260                      265                      270  
 Gln Leu Arg Asn Arg Ala Thr Ile Lys Val Glu Asp Met Gly Val Val  
                                  275                      280                      285  
 Pro Ala Thr Cys Ser Ser Gln Pro Pro Ala Ala Ala Arg Ser Ser Ala  
                                  290                      295                      300  
 Pro Gly Arg Ala Gly Asp Pro Thr  
 305                      310

<210> 164

<211> 81

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> >New ORF = left: 13207 right: 13449 frame: 2 size(aa): 81

<400> 164

Val Gly Ser Pro Ala Arg Pro Gly Ala Glu Asp Arg Ala Ala Ala Gly  
 1                      5                      10                      15  
 Gly Trp Glu Glu His Val Ala Gly Thr Thr Pro Ile Ser Ser Thr Leu  
                                  20                      25                      30  
 Ile Val Ala Leu Phe Arg Ser Cys Arg Thr Ser Ser Cys Arg Ser Lys  
                                  35                      40                      45  
 Gln Ser Ile Ser Ala Cys Ala Ser Met Pro Ser Arg Ser Ser Asn Arg  
                                  50                      55                      60  
 Ala Ser Ala Ile Ala Arg Ser Pro His Gln Arg Arg Gln Ser Ala Pro  
 65                      70                      75                      80  
 Gly

<210> 165

<211> 93

<212> PRT

<213> Cyanophage S-2L

<220>

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&lt;221&gt; misc\_feature

&lt;223&gt; &gt;New ORF = left: 13303 right: 13581 frame: -2 size(aa): 93

&lt;400&gt; 165

Trp Thr Arg Cys Trp Met Trp Arg Cys Arg Thr Ser Ser Cys Ser Ser  
 1 5 10 15  
 Ser Ser Gly Arg Ser Arg Arg Arg Asp Ala Ala Pro Gln Ala Pro Arg  
 20 25 30  
 Ala Ala Gly Pro Val Glu Arg Leu Gly Pro Leu Ser Pro Arg Gly Arg  
 35 40 45  
 Leu Pro Pro Leu Val Arg Gly Pro Gly Asp Arg Arg Gly Pro Ile Arg  
 50 55 60  
 Gly Pro Ala Trp His Ala Arg Ala Gly Gly Asp Arg Leu Leu Arg Ser  
 65 70 75 80  
 Ala Gly Ala Arg Pro Ala Ala Ala Glu Gln Ser His Tyr  
 85 90

&lt;210&gt; 166

&lt;211&gt; 344

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; &gt;New ORF = left: 13307 right: 14338 frame: 3 size(aa): 344

&lt;400&gt; 166

Trp Leu Cys Ser Ala Ala Ala Gly Arg Ala Pro Ala Asp Arg Ser Ser  
 1 5 10 15  
 Arg Ser Pro Pro Ala Arg Ala Cys Gln Ala Gly Pro Arg Ile Gly Pro  
 20 25 30  
 Arg Arg Ser Pro Gly Pro Arg Thr Arg Gly Gly Ser Arg Pro Leu Gly  
 35 40 45  
 Glu Arg Gly Pro Ser Leu Ser Thr Gly Pro Ala Ala Arg Gly Ala Cys  
 50 55 60  
 Gly Ala Ala Ser Arg Leu Leu Asp Arg Pro Leu Glu Leu Glu His Glu  
 65 70 75 80  
 Leu Val Leu His Leu His Ile Gln His Arg Val His Gln Ala Pro Phe  
 85 90 95  
 His Leu Leu His Gln Gln Val Leu Asp Val Val Gly Val Gly Ala Gln  
 100 105 110  
 Ala Val Asp Leu Glu Glu Gln Asp Gly Leu Gly Gly Val Ala Glu Leu  
 115 120 125  
 Pro Lys Leu Ser Gly Leu Arg Gly His Gly Arg Leu Glu Leu Gly His  
 130 135 140  
 Leu Arg Asp Asp Leu Gly Leu Asp Ala Gly Gln Glu Leu Leu Glu Leu  
 145 150 155 160  
 Arg Gly Leu Val Gly Arg Arg Gly Val Ala Arg Pro Asp Leu Gly Gln  
 165 170 175

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Val Val Asp Gln Gly Lys Leu Ala Gly Leu Ala Asp Arg Val Leu Gly  
180 185 190  
His Ala Gly Gly Ser Ala Pro Val Pro Ala Gln Glu Pro Asn Ala Pro  
195 200 205  
His Val Phe Gly Asp Val Leu Arg Val Gly Arg Leu Asp Asp Pro Pro  
210 215 220  
Pro Ala Asp Val Gly Arg Pro Gln Ala Leu Val Gly Leu Gly Asp Leu  
225 230 235 240  
Glu Cys His Gly Lys Glu Gly Val Ser Glu Pro Gly Met Trp Arg Met  
245 250 255  
Ala Pro Leu Ser Ala Arg Ala Gln Glu Arg Ala Arg Leu Met Ala Ser  
260 265 270  
Leu Ala Arg Met Ala Ser Val Thr Ser Thr Pro Arg Ser Val Ala Arg  
275 280 285  
Ser Arg Ala Arg Ile Arg Thr Ser Ala Thr Ser Ser Gly Ser Trp Ala  
290 295 300  
Arg Ser Leu Ala Ile Asn Ser Pro Ile Ser Ser Arg Ser Leu Ala Met  
305 310 315 320  
Val Arg Arg Gly Gly Gly Arg Gly Ser Gly Gly Gly Ser Arg Arg Arg  
325 330 335  
Ser Pro Pro Gly Ala Gln Arg Arg  
340

<210> 167  
<211> 190  
<212> PRT  
<213> Cyanophage S-2L  
<220>  
<221> misc\_feature  
<223> >New ORF = left: 13511 right: 14080 frame: -3 size(aa): 190

<400> 167  
Arg Arg His Ala Pro His Pro Arg Phe Arg Tyr Pro Leu Leu Pro Met  
1 5 10 15  
Thr Leu Gln Ile Thr Glu Thr Tyr Glu Arg Leu Arg Ala Ser His Ile  
20 25 30  
Ser Arg Trp Gly Ile Val Gln Thr Thr Tyr Pro Gln Asn Ile Ala Glu  
35 40 45  
His Met Trp Arg Val Trp Leu Leu Cys Arg Asp Trp Gly Ala Ala Ala  
50 55 60  
Gly Met Pro Gln His Thr Val Arg Gln Ala Cys Glu Phe Ala Leu Val  
65 70 75 80  
His Asp Leu Ala Glu Ile Arg Thr Gly Asp Ala Pro Thr Pro His Lys  
85 90 95  
Thr Pro Glu Leu Lys Glu Leu Leu Ala Gly Ile Glu Ala Gln Ile Val  
100 105 110  
Pro Glu Val Ala Glu Leu Glu Ala Thr Met Ala Pro Glu Ala Arg Glu  
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115

120

125

Leu Trp Lys Phe Cys Asp Thr Ala Glu Ala Val Leu Phe Leu Lys Val  
 130 135 140  
 Asn Gly Leu Gly Ala His Ala Tyr Asp Val Gln His Leu Leu Met Glu  
 145 150 155 160  
 Gln Met Lys Arg Arg Leu Met Asp Ser Val Leu Asp Val Glu Val Gln  
 165 170 175  
 Asp Glu Leu Met Phe Gln Phe Glu Arg Thr Ile Lys Lys Thr  
 180 185 190

&lt;210&gt; 168

&lt;211&gt; 130

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; &gt;New ORF = left: 13609 right: 13998 frame: -2 size(aa): 130

&lt;400&gt; 168

Gly Arg Pro Thr Ser Ala Gly Gly Gly Ser Ser Arg Arg Pro Thr Arg  
 1 5 10 15  
 Arg Thr Ser Pro Asn Thr Cys Gly Ala Phe Gly Ser Cys Ala Gly Thr  
 20 25 30  
 Gly Ala Leu Pro Pro Ala Cys Pro Ser Thr Arg Ser Ala Arg Pro Ala  
 35 40 45  
 Ser Leu Pro Trp Ser Thr Thr Trp Pro Arg Ser Gly Arg Ala Thr Pro  
 50 55 60  
 Arg Arg Pro Thr Arg Pro Arg Ser Ser Arg Ser Ser Trp Pro Ala Ser  
 65 70 75 80  
 Arg Pro Arg Ser Ser Arg Arg Trp Pro Ser Ser Arg Arg Pro Trp Pro  
 85 90 95  
 Arg Arg Pro Glu Ser Phe Gly Ser Ser Ala Thr Pro Pro Arg Pro Ser  
 100 105 110  
 Cys Ser Ser Arg Ser Thr Ala Trp Ala Pro Thr Pro Thr Thr Ser Ser  
 115 120 125  
 Thr Cys  
 130

&lt;210&gt; 169

&lt;211&gt; 109

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; &gt;New ORF = left: 13629 right: 13955 frame: 1 size(aa): 109

&lt;400&gt; 169

Ala Trp Ala Pro Arg Pro Leu Thr Leu Arg Asn Arg Thr Ala Ser Ala  
 1 5 10 15

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Val Ser Gln Asn Phe Gln Ser Ser Leu Ala Ser Gly Ala Met Val Ala  
 20 25 30  
 Ser Ser Ser Ala Thr Ser Gly Thr Ile Trp Ala Ser Met Pro Ala Arg  
 35 40 45  
 Ser Ser Leu Ser Ser Gly Val Leu Trp Gly Val Gly Ala Ser Pro Val  
 50 55 60  
 Arg Ile Ser Ala Arg Ser Trp Thr Arg Ala Asn Ser Gln Ala Trp Arg  
 65 70 75 80  
 Thr Val Cys Trp Gly Met Pro Ala Ala Ala Pro Gln Ser Arg His Arg  
 85 90 95  
 Ser Gln Thr Arg His Met Cys Ser Ala Met Phe Cys Gly  
 100 105

<210> 170  
 <211> 67  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> >New ORF = left: 13783 right: 13983 frame: 2 size(aa): 67

<400> 170  
 Ala Pro Gly Ser Cys Gly Ala Ser Gly Arg Arg Pro Ser Gly Ser Arg  
 1 5 10 15  
 Pro Gly Arg Gly Pro Gly Gln Thr Arg Arg Pro Gly Gly Pro Cys Ala  
 20 25 30  
 Gly Ala Cys Arg Arg Gln Arg Pro Ser Pro Gly Thr Gly Ala Lys Arg  
 35 40 45  
 Ala Thr Cys Val Arg Arg Cys Ser Ala Gly Arg Ser Ser Gly Arg Ser  
 50 55 60  
 Pro Thr Gly  
 65

<210> 171  
 <211> 131  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> >New ORF = left: 14023 right: 14415 frame: 2 size(aa): 131

<400> 171  
 Ser Gly Val Ser Trp Glu Gly Gly Gly Ile Gly Thr Gly Asp Val Ala  
 1 5 10 15  
 His Gly Ala Val Ile Gly Ser Gly Pro Gly Ala Gly Pro Val Asp Gly  
 20 25 30  
 Glu Leu Gly Ala Asp Gly Leu Gly His Val Asp Ala Gln Glu Arg Arg  
 35 40 45  
 Gln Val Glu Gly Gln Asp Gln Asp Val Gly His Leu Glu Arg Val Val  
 50 55 60

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Gly Pro Val Ala Gly Asp Gln Leu Pro Asp Leu Leu Gln Glu Leu Gly  
65 70 75 80  
Asp Gly Ala Pro Gly Arg Arg Ser Gly Phe Arg Gly Trp Ile Gln Ala  
85 90 95  
Ala Ile Ser Ala Trp Ser Ser Ala Thr Val Ala Gly Ile Gln Thr Phe  
100 105 110  
Glu Leu Cys Pro Gly Gly Gly Val Val Asp Val Gly Asp Phe Gly Pro  
115 120 125  
Lys Pro Thr  
130

<210> 172  
<211> 98  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> >New ORF = left: 14035 right: 14328 frame: -2 size(aa): 98

<400> 172  
Ala Pro Gly Gly Asp Arg Arg Leu Asp Pro Pro Pro Glu Pro Arg Pro  
1 5 10 15  
Pro Pro Arg Arg Thr Ile Ala Lys Leu Leu Glu Glu Ile Gly Glu Leu  
20 25 30  
Ile Ala Ser Asp Arg Ala His Asp Pro Leu Glu Val Ala Asp Val Leu  
35 40 45  
Ile Leu Ala Leu Asp Leu Ala Thr Leu Leu Gly Val Asp Val Thr Glu  
50 55 60  
Ala Ile Arg Ala Lys Leu Ala Ile Asn Arg Ala Arg Ser Trp Ala Arg  
65 70 75 80  
Ala Asp Asn Gly Ala Met Arg His Ile Pro Gly Ser Asp Thr Pro Ser  
85 90 95  
Phe Pro

<210> 173  
<211> 69  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> >New ORF = left: 14084 right: 14290 frame: -3 size(aa): 69

<400> 173  
Thr Pro Thr Ala Ala Pro Ala His His Arg Gln Ala Pro Gly Gly Asp  
1 5 10 15  
Arg Gly Val Asp Arg Gln Arg Pro Gly Pro Arg Pro Ala Arg Gly Gly  
20 25 30  
Arg Arg Pro Asp Pro Gly Pro Arg Pro Gly Asp Ala Pro Gly Arg Arg  
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35 40 45  
 Arg Asp Arg Gly His Pro Arg Gln Ala Arg His Gln Pro Gly Pro Leu  
 50 55 60

Leu Gly Pro Ser Arg  
 65

<210> 174  
 <211> 93  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> >New ORF = left: 14115 right: 14393 frame: 1 size(aa): 93

<400> 174

Trp Arg Ala Trp Arg Gly Trp Pro Arg Ser Arg Arg Arg Pro Gly Ala  
 1 5 10 15  
 Ser Pro Gly Arg Gly Pro Gly Ser Gly Arg Arg Pro Pro Arg Ala Gly  
 20 25 30  
 Arg Gly Pro Gly Arg Trp Arg Ser Thr Pro Arg Ser Pro Gly Ala  
 35 40 45  
 Trp Arg Trp Cys Ala Gly Ala Ala Val Gly Val Gln Gly Val Asp Pro  
 50 55 60  
 Gly Gly Asp Leu Arg Leu Glu Leu Ser Asp Gly Ser Gly His Thr Asn  
 65 70 75 80  
 Leu Arg Ala Leu Pro Gly Trp Gly Cys Gly Arg Arg Arg  
 85 90

<210> 175  
 <211> 419  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> >New ORF = left: 14235 right: 15491 frame: -1 size(aa): 419

<400> 175

Thr Thr Ser Gly Ala Ser Ser Arg Arg Arg Pro Ser Arg Arg Gly Pro  
 1 5 10 15  
 Gly Val Pro Ser Trp Thr Ala Asp Pro Gly Arg Ala Met Leu Ser Ile  
 20 25 30  
 Pro Pro Tyr Tyr Arg Val Lys Asn Cys Asn Leu Ile Val Asp Cys Gln  
 35 40 45  
 Tyr Gly Ser Thr Gly Lys Gly Leu Leu Ala Gly Tyr Leu Gly Ala Leu  
 50 55 60  
 Glu Ala Pro Gln Val Leu Cys Met Ala Pro Ser Pro Asn Ala Gly His  
 65 70 75 80  
 Thr Leu Val Glu Glu Asp Gly Thr Ala Arg Val His Lys Met Leu Pro  
 85 90 95

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Leu Gly Ile Thr Ser Pro Ser Leu Glu Arg Ile Tyr Leu Gly Pro Gly  
 100 105 110  
 Ser Val Ile Asp Met Asp Arg Leu Leu Glu Glu Tyr Leu Ala Leu Pro  
 115 120 125  
 Arg Gln Val Glu Leu Trp Val His Gln Asn Ala Ala Val Val Leu Gln  
 130 135 140  
 Glu His Arg Asp Glu Glu Ala Ala Gly Gly Leu Ala Pro Gly Ser Thr  
 145 150 155 160  
 Arg Ser Gly Ala Gly Ser Ala Phe Ile Ala Lys Ile Arg Arg Arg Pro  
 165 170 175  
 Gly Thr Leu Leu Phe Gly Glu Ala Val Arg Asp His Pro Leu His Gly  
 180 185 190  
 Val Val Arg Val Val Asp Thr Arg Thr Ala Gln Asp Met Leu Phe Arg  
 195 200 205  
 Thr Arg Ser Ile Gln Ala Glu Gly Cys Gln Gly Tyr Ser Leu Ser Val  
 210 215 220  
 His His Gly Ala Tyr Pro Tyr Cys Thr Ala Arg Asp Val Thr Thr Ala  
 225 230 235 240  
 Gln Leu Ile Ala Asp Cys Gly Leu Pro Tyr Asp Val Ala Arg Ile Ala  
 245 250 255  
 Arg Val Val Gly Ser Met Arg Thr Tyr Pro Ile Arg Val Ala Asn Arg  
 260 265 270  
 Pro Glu Ala Gly Glu Trp Ser Ala Pro Cys Tyr Pro Asp Ser Val Glu  
 275 280 285  
 Cys Gln Phe Ala Asp Leu Gly Leu Glu Gln Glu Tyr Thr Thr Val Thr  
 290 295 300  
 Lys Leu Pro Arg Arg Ile Phe Thr Phe Ser Ala Ile Gln Ala His Glu  
 305 310 315 320  
 Ala Ile Ala Gln Asn Gly Val Asp Glu Val Phe Leu Asn Phe Ala Gln  
 325 330 335  
 Tyr Pro Pro Ser Leu Gly Ala Leu Glu Asp Ile Leu Asp Ala Ile Glu  
 340 345 350  
 Ala Arg Ala Glu Val Thr Tyr Val Gly Phe Gly Pro Lys Ser Pro Thr  
 355 360 365  
 Ser Thr Thr Pro Pro Pro Gly Gln Ser Ser Lys Val Cys Met Pro Ala  
 370 375 380  
 Thr Val Ala Glu Leu Gln Ala Glu Ile Ala Ala Trp Ile His Pro Leu  
 385 390 395 400  
 Asn Pro Asp Arg Arg Pro Gly Ala Pro Ser Pro Ser Ser Trp Arg Arg  
 405 410 415  
 Ser Gly Ser

<210> 176  
 <211> 73  
 <212> PRT  
 <213> Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; &gt;New ORF = left: 14332 right: 14550 frame: -2 size(aa): 73

&lt;400&gt; 176

Arg His Pro Gly Ala Arg Gly His Arg Pro Glu Arg Arg Gly Arg Gly  
 1 5 10 15  
 Val Pro Gln Leu Arg Pro Val Pro Ala Gln Pro Arg Gly Ser Arg Gly  
 20 25 30  
 His Pro Arg Arg His Arg Gly Gln Gly Gly Gly Asp Leu Arg Arg Leu  
 35 40 45  
 Arg Pro Glu Val Thr Asp Val Tyr His Thr Pro Thr Arg Ala Glu Leu  
 50 55 60  
 Glu Gly Leu Tyr Ala Arg Tyr Arg Arg  
 65 70

&lt;210&gt; 177

&lt;211&gt; 244

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; &gt;New ORF = left: 14397 right: 15128 frame: 1 size(aa): 244

&lt;400&gt; 177

Leu Arg Ala Glu Ala Asp Val Gly His Leu Arg Pro Gly Leu Asp Gly  
 1 5 10 15  
 Val Glu Asp Val Leu Glu Ser Pro Glu Ala Gly Arg Val Leu Gly Glu  
 20 25 30  
 Val Glu Glu His Leu Val His Ala Val Leu Gly Asp Gly Leu Val Arg  
 35 40 45  
 Leu Asp Gly Ala Lys Arg Lys Asp Pro Ala Gly Glu Leu Arg His Gly  
 50 55 60  
 Gly Val Leu Leu Leu Gln Ala Gln Val Gly Glu Leu Ala Leu Asp Arg  
 65 70 75 80  
 Val Gly Val Ala Gly Gly Ala Pro Leu Thr Gly Leu Arg Ala Val Gly  
 85 90 95  
 His Pro Asp Arg Val Gly Pro His Arg Ala Asp Asp Pro Gly Asp Pro  
 100 105 110  
 Gly Asp Val Val Gly Gln Ala Ala Val Gly Asp Gln Leu Gly Arg Arg  
 115 120 125  
 Asp Val Pro Gly Gly Ala Val Gly Val Gly Pro Val Val Asp Arg Gln  
 130 135 140  
 Ala Val Ala Leu Ala Pro Leu Gly Leu Asp Arg Pro Gly Pro Lys Gln  
 145 150 155 160  
 His Val Leu Gly Gly Pro Gly Val Asp Asp Pro Asp Asp Thr Val Glu  
 165 170 175  
 Arg Val Ile Pro Asp Gly Leu Thr Glu Gln Glu Arg Pro Arg Ala Ala

180 185 190

Ala Asp Leu Gly Asp Lys Arg Arg Ala Gly Ala Ala Ala Gly Arg Ala  
195 200 205

Trp Gly Gln Ala Pro Gly Gly Leu Leu Ile Pro Val Leu Leu Glu Asp  
210 215 220

Asp Gly Gly Val Leu Val Asp Pro Glu Leu His Leu Pro Gly Glu Gly  
225 230 235 240

Gln Val Leu Leu

<210> 178  
 <211> 75  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> >New ORF = left: 14419 right: 14643 frame: 2 size(aa): 75

<400> 178

Val Thr Ser Ala Leu Ala Ser Met Ala Ser Arg Met Ser Ser Arg Ala  
1 5 10 15

Pro Arg Leu Gly Gly Tyr Trp Ala Lys Leu Arg Asn Thr Ser Ser Thr  
20 25 30

Pro Phe Trp Ala Met Ala Ser Cys Ala Trp Met Ala Leu Asn Val Lys  
35 40 45

Ile Arg Arg Gly Ser Phe Val Thr Val Val Tyr Ser Cys Ser Arg Pro  
50 55 60

Arg Ser Ala Asn Trp His Ser Thr Glu Ser Gly  
65 70 75

<210> 179  
 <211> 53  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> >New ORF = left: 14423 right: 14581 frame: -3 size(aa): 53

<400> 179

Arg Ser Ser Pro Ala Gly Ser Leu Arg Leu Ala Pro Ser Arg Arg Thr  
1 5 10 15

Arg Pro Ser Pro Arg Thr Ala Trp Thr Arg Cys Ser Ser Thr Ser Pro  
20 25 30

Ser Thr Arg Pro Ala Ser Gly Leu Ser Arg Thr Ser Ser Thr Pro Ser  
35 40 45

Arg Pro Gly Arg Arg  
50

<210> 180  
 <211> 73  
 <212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> >New ORF = left: 14561 right: 14779 frame: 3 size(aa): 73

<400> 180

Arg Ser Gly Gly Gly Ala Ser Ser Arg Trp Cys Thr Pro Ala Pro Gly  
1 5 10 15  
Pro Gly Arg Arg Thr Gly Thr Arg Pro Ser Arg Gly Ser Arg Gly Arg  
20 25 30  
Ser Thr His Arg Pro Pro Gly Gly Trp Pro Pro Gly Ser Gly Arg Ser  
35 40 45  
Ala Ser Ser Arg Arg Pro Gly Arg Ser Gly Arg Arg Arg Ala Gly  
50 55 60  
Arg Ser Arg Arg Ser Ala Gly Pro Ser  
65 70

<210> 181

<211> 60

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> >New ORF = left: 14585 right: 14764 frame: -3 size(aa): 60

<400> 181

Ser Pro Thr Ala Ala Cys Pro Thr Thr Ser Pro Gly Ser Pro Gly Ser  
1 5 10 15  
Ser Ala Arg Cys Gly Pro Thr Arg Ser Gly Trp Pro Thr Ala Arg Arg  
20 25 30  
Pro Val Ser Gly Ala Pro Pro Ala Thr Pro Thr Arg Ser Ser Ala Ser  
35 40 45  
Ser Pro Thr Trp Ala Trp Ser Arg Ser Thr Pro Pro  
50 55 60

<210> 182

<211> 93

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> >New ORF = left: 14665 right: 14943 frame: -2 size(aa): 93

<400> 182

Gly Arg Pro Gly Ser Pro Ala Pro Arg Cys Arg Pro Gly Arg Arg His  
1 5 10 15  
Pro Asp Arg Pro Gly His Ala Val Ser Asp Pro Val Asp Pro Gly Arg  
20 25 30  
Gly Val Pro Gly Leu Gln Pro Val Gly Pro Pro Arg Gly Leu Pro Leu  
35 40 45



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Leu His Arg Pro Gly Arg His Asp Gly Pro Ala Asp Arg Arg Leu Arg  
 50 55 60  
 Pro Ala Leu Arg Arg Arg Pro Asp Arg Pro Gly Arg Arg Leu Asp Ala  
 65 70 75 80  
 Asp Leu Pro Asp Pro Gly Gly Gln Pro Pro Gly Gly Arg  
 85 90

<210> 183  
 <211> 120  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> >New ORF = left: 14768 right: 15127 frame: -3 size(aa): 120

<400> 183  
 Arg Ser Thr Trp Pro Ser Pro Gly Arg Trp Ser Ser Gly Ser Thr Arg  
 1 5 10 15  
 Thr Pro Pro Ser Ser Ser Arg Ser Thr Gly Met Arg Arg Pro Pro Gly  
 20 25 30  
 Ala Trp Pro Gln Ala Arg Pro Ala Ala Ala Pro Ala Arg Arg Leu Ser  
 35 40 45  
 Pro Arg Ser Ala Ala Ala Leu Gly Arg Ser Cys Ser Val Arg Pro Ser  
 50 55 60  
 Gly Ile Thr Arg Ser Thr Val Ser Ser Gly Ser Ser Thr Pro Gly Pro  
 65 70 75 80  
 Pro Arg Thr Cys Cys Phe Gly Pro Gly Arg Ser Arg Pro Arg Gly Ala  
 85 90 95  
 Arg Ala Thr Ala Cys Arg Ser Thr Thr Gly Pro Thr Pro Thr Ala Pro  
 100 105 110  
 Pro Gly Thr Ser Arg Arg Pro Ser  
 115 120

<210> 184  
 <211> 68  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> >New ORF = left: 14783 right: 14986 frame: 3 size(aa): 68

<400> 184  
 Arg Pro Gly Arg Cys Ser Arg Gly Arg Pro Arg Gly Gly Pro Thr Gly  
 1 5 10 15  
 Cys Ser Pro Gly Thr Pro Arg Pro Gly Ser Thr Gly Ser Glu Thr Ala  
 20 25 30  
 Cys Pro Gly Arg Ser Gly Cys Arg Arg Pro Gly Arg His Arg Gly Ala  
 35 40 45  
 Gly Asp Pro Gly Arg Pro His Arg Thr Gly Ala Ser Gln Gly Gly Gly  
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50

55

Gly Ser Trp Arg  
65

<210> 185  
<211> 79  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> >New ORF = left: 14932 right: 15168 frame: 2 size(aa): 79

<400> 185

Ser Arg Thr Ala Ser Pro Asn Arg Ser Val Pro Gly Arg Arg Arg Ile  
1 5 10 15  
Leu Ala Ile Asn Ala Glu Pro Ala Pro Leu Arg Val Glu Pro Gly Ala  
20 25 30  
Arg Pro Pro Ala Ala Ser Ser Ser Arg Cys Ser Trp Arg Thr Thr Ala  
35 40 45  
Ala Phe Trp Trp Thr Gln Ser Ser Thr Cys Arg Gly Arg Ala Arg Tyr  
50 55 60  
Ser Ser Arg Ser Arg Ser Met Ser Ile Thr Glu Pro Gly Pro Arg  
65 70 75

<210> 186  
<211> 68  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> >New ORF = left: 14990 right: 15193 frame: 3 size(aa): 68

<400> 186

Thr Pro Ser Arg Arg Arg Cys Gly Ser Ser Leu Gly Pro Gly Pro Arg  
1 5 10 15  
Arg Pro Pro His Pro Gly Ala Pro Gly Gly Arg Arg Arg Arg Ser Gly  
20 25 30  
Gly Pro Arg Ala Pro Pro Ala Gly Gly Gly Pro Gly Thr Pro Leu Gly  
35 40 45  
Ala Gly Pro Cys Arg Ser Pro Ser Arg Gly Pro Gly Arg Ser Ala Gln  
50 55 60  
Gly Trp Gly Trp  
65

<210> 187  
<211> 113  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> >New ORF = left: 15132 right: 15470 frame: 1 size(aa): 113

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<400> 187

Glu Pro Val His Val Asp His Arg Ala Gly Ala Gln Val Asp Pro Leu  
 1 5 10 15  
 Lys Ala Gly Ala Gly Asp Ala Gln Gly Gln His Leu Val Asp Ala Gly  
 20 25 30  
 Gly Ala Val Leu Leu Asp Gln Gly Val Ala Gly Val Gly Ala Gly Cys  
 35 40 45  
 His Ala Gln His Leu Arg Gly Leu Glu Arg Pro Gln Val Ala Gly Gln  
 50 55 60  
 Glu Pro Leu Ala Gly Ala Ala Val Leu Ala Val Asp Asp Gln Val Ala  
 65 70 75 80  
 Val Leu His Ala Ile Val Gly Gly Asn Gly Gln His Ser Thr Ala Gly  
 85 90 95  
 Val Ser Arg Pro Gly Trp Asp Ala Trp Ala Ser Pro Arg Trp Pro Ser  
 100 105 110  
 Pro

<210> 188

<211> 70

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> >New ORF = left: 15152 right: 15361 frame: -3 size(aa): 70

<400> 188

Ser Ser Thr Ala Ser Thr Ala Ala Pro Ala Arg Gly Ser Trp Pro Ala  
 1 5 10 15  
 Thr Trp Gly Arg Ser Arg Pro Arg Arg Cys Cys Ala Trp His Pro Ala  
 20 25 30  
 Pro Thr Pro Ala Thr Pro Trp Ser Arg Arg Thr Ala Pro Pro Ala Ser  
 35 40 45  
 Thr Arg Cys Cys Pro Trp Ala Ser Pro Ala Pro Ala Leu Ser Gly Ser  
 50 55 60  
 Thr Trp Ala Pro Ala Arg  
 65 70

<210> 189

<211> 80

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> >New ORF = left: 15181 right: 15420 frame: -2 size(aa): 80

<400> 189

Pro Arg Pro Cys Tyr Ala Val His Ser Pro Leu Leu Ser Arg Glu Glu  
 1 5 10 15

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Leu Gln Pro Asp Arg Arg Leu Pro Val Arg Gln His Arg Gln Gly Ala  
 20 25 30  
 Pro Gly Arg Leu Pro Gly Gly Ala Arg Gly Pro Ala Gly Ala Val His  
 35 40 45  
 Gly Thr Gln Pro Gln Arg Arg Pro His Pro Gly Arg Gly Gly Arg His  
 50 55 60  
 Arg Pro Arg Pro Gln Asp Ala Ala Pro Gly His His Gln Pro Gln Pro  
 65 70 75 80

<210> 190  
 <211> 70  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> >New ORF = left: 15197 right: 15406 frame: 3 size(aa): 70

<400> 190  
 Cys Pro Gly Ala Ala Ser Cys Gly Arg Gly Arg Cys Arg Pro Pro Arg  
 1 5 10 15  
 Pro Gly Cys Gly Arg Arg Trp Gly Trp Val Pro Cys Thr Ala Pro Ala  
 20 25 30  
 Gly Pro Arg Ala Pro Pro Gly Ser Arg Pro Gly Ala Pro Cys Arg Cys  
 35 40 45  
 Cys Arg Thr Gly Ser Arg Arg Ser Gly Cys Ser Ser Ser Arg Asp Ser  
 50 55 60  
 Arg Gly Glu Trp Thr Ala  
 65 70

<210> 191  
 <211> 337  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> >New ORF = left: 15380 right: 16390 frame: -3 size(aa): 337

<400> 191  
 Leu Pro Val Leu Glu Pro Gly Arg Gly Arg Pro Val Arg Pro Gln Ala  
 1 5 10 15  
 Leu His Leu Arg Val Glu Glu Ala Glu Pro Gln Arg Gln Ala Leu His  
 20 25 30  
 Leu Ala Pro Asp Pro Ala Ala Pro Glu Arg Val Pro Arg Pro Ala Pro  
 35 40 45  
 Ala Ala Ala Pro Gly Pro Gly Pro Pro Gly Pro Cys Ala Pro Gly Ala  
 50 55 60  
 Pro Gly Arg Cys Pro Ser Pro Ala Leu Leu Glu Pro Pro Asp Arg Pro  
 65 70 75 80  
 Val Gly Asp Ala Pro Ala Arg Pro Gly Pro Gly Thr Arg Thr Gly Arg  
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85	90	95
Ala Ala Ala Pro Ala Gly Val Glu Pro Pro Asp Pro Ala Val Gly Asp	100	110
Pro Gly Ser Pro Ser Arg Ser Gly Pro Gly Pro Gly Gly Pro Gly Leu	115	125
Arg Ala Arg Arg Leu Pro Gly Pro Ala Val Arg Pro Ser Gly Arg Pro	130	140
Ala Ala Asp Pro Gly Pro Gly Arg Arg Ser Ala Pro Arg Arg Arg Pro	145	155
Gly Ala Asp Arg Pro Ala Pro Gly Val Ala Val Pro Gly Ala Gly Pro	165	175
Asp Arg Arg Pro Gly Arg Gly Arg Asn Pro Val Leu Thr Asp Arg Ser	180	190
Gln Gly Leu Arg Lys Gly Pro Leu Pro Val Gln Thr Thr Pro Pro Leu	195	205
His Pro Arg Glu Ser Gln His Pro Arg Arg Arg Gln Ala Ala Ser Asp	210	220
Arg Tyr Gln Ala Ala Arg Ile His Arg Ala Ser Lys Arg Gly Arg Asp	225	235
Pro Gly His Gly Arg Leu Ala His Arg Arg Pro Arg Gln Ile His Pro	245	255
Pro Arg Gln Arg Gln Pro Gly Ser Pro Cys Cys His Pro Pro Gly His	260	270
Pro Gln His Leu Gly Gly Arg Pro Ala Cys His Asp Pro Gly Phe Leu	275	285
Gly Leu Asp Arg Glu Ala Pro Ala Asp Thr Pro Glu Leu His Pro Gly	290	300
Pro Val Gln Gly Glu Gly His Arg Gly Glu Ala Gln Ala Ser His Pro	305	315
Gly Arg Leu Thr Pro Ala Val Leu Cys Cys Pro Phe Pro Pro Thr Ile	325	335

Ala

<210> 192  
 <211> 386  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> >New ORF = left: 15391 right: 16548 frame: 2 size(aa): 386

<400> 192

Gly Gly Met Asp Ser Ile Ala Arg Pro Gly Ser Ala Val Gln Asp Gly	1	5	10	15
Thr Pro Gly Pro Leu Leu Asp Gly Leu Leu Leu Glu Leu Ala Pro Asp	20	25	30	

Val Val Gln Val Cys Leu Pro Glu Leu Leu Gly Pro Val Pro Lys Thr  
 35 40 45  
 Leu Gly His Gly Arg Gln Ala Leu Pro Gly Ala Val Asp Asp Pro  
 50 55 60  
 Ala Asp Asp Ser Met Glu Ile Pro Ala Ala Val Val Ser Ala Asp Glu  
 65 70 75 80  
 Phe Val Glu Ala Val Asp Ala Pro Gly Asp His Ala Gln Asp Leu Gly  
 85 90 95  
 Leu Ser Leu Lys Leu Gly Val Ser Ser Gln Leu Gly Ser Asp Leu Thr  
 100 105 110  
 Gln Pro Asp Gly Gly Val Gly Val Glu Thr His Gly Gly Gly Val Val  
 115 120 125  
 Glu Trp Phe Val Arg Gly Gly Ala Pro Cys Gly Ala Pro Gly Ile Asp  
 130 135 140  
 Arg Ser Glu Arg Asp Phe Val Leu Ala Gln Asp Ala Gly Arg Gly Arg  
 145 150 155 160  
 Arg Leu Gly Leu Pro His Arg Gly Leu Ala Gly Arg His Arg Gly Ala  
 165 170 175  
 Cys Val Glu Arg Cys Ala Asp Leu Gly Arg Gly Arg Leu Arg Gly Gly  
 180 185 190  
 Arg Arg Gly Val Arg Leu Ala Arg Gly Ala Ala Leu Pro Val Gly Arg  
 195 200 205  
 Gly Arg Arg Gly Arg Gly Leu Ser Gly Arg Gly Ser Arg Gly His Pro  
 210 215 220  
 Leu Leu Gly Leu Gly Val Pro His Arg Leu Gly Arg Leu Arg Gly Arg  
 225 230 235 240  
 Cys Gly Cys Arg Gly Arg Gly Gly Leu Gly Arg His Pro Leu Ala Gly  
 245 250 255  
 Leu Gly Val Pro Val Gly Leu Gly Arg Gly Thr Gly Arg Gly Arg Leu  
 260 265 270  
 Gly Arg Met Gly Leu Gly Gly Arg Gly Leu Ala Leu Leu Leu Gly Gln  
 275 280 285  
 Ala Glu Glu Arg Val Pro Gly Arg Leu Asp Leu Glu Arg Asp Val Arg  
 290 295 300  
 Leu Ala Val Ala Ala Leu Leu Leu Pro Pro Gly Asp Val Glu Leu Glu  
 305 310 315 320  
 Ala Val Leu Val Gly Leu Gly Pro Val Arg Glu Gln Val Val Ser Glu  
 325 330 335  
 Gly Gly Asp Val Leu Gly Arg Asp Gly Ala Gly Ala Ala Val Val Asp  
 340 345 350  
 Pro Val Leu Ala Val Val Asp Glu Gln Gly Ala Val Glu Gly Gly Gln  
 355 360 365  
 Leu Gly Gly Leu Gly Leu Gly Leu Gly Leu Gly Leu Ala Val Gly Gly  
 370 375 380  
 Leu His  
 385

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<210> 193  
 <211> 134  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> >New ORF = left: 15424 right: 15825 frame: -2 size(aa): 134

<400> 193  
 Pro Ile Asp Pro Arg Gly Ser Ala Arg Gly Pro Ser Pro Tyr Lys Pro  
 1 5 10 15  
 Leu His His Ser Thr Pro Val Ser Leu Asn Thr His Ala Ala Val Arg  
 20 25 30  
 Leu Arg Gln Ile Ala Thr Lys Leu Arg Gly Tyr Thr Glu Leu Gln Arg  
 35 40 45  
 Glu Ala Glu Ile Leu Gly Met Val Ala Trp Arg Ile Asp Gly Leu Asp  
 50 55 60  
 Lys Phe Ile Arg Arg Asp Asn Gly Ser Arg Asp Leu His Ala Val Ile  
 65 70 75 80  
 Arg Arg Val Ile His Ser Thr Trp Glu Gly Gly Leu Pro Ala Met Thr  
 85 90 95  
 Gln Gly Phe Trp Asp Trp Thr Glu Lys Leu Arg Gln Thr His Leu Asn  
 100 105 110  
 Tyr Ile Arg Gly Gln Phe Lys Glu Lys Ala Ile Glu Glu Arg Pro Arg  
 115 120 125  
 Arg Pro Ile Leu Asp Gly  
 130

<210> 194  
 <211> 65  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> >New ORF = left: 15491 right: 15685 frame: 3 size(aa): 65

<400> 194  
 Phe Arg Cys Val Cys Arg Ser Phe Ser Val Gln Ser Gln Lys Pro Trp  
 1 5 10 15  
 Val Met Ala Gly Arg Pro Pro Ser Gln Val Leu Trp Met Thr Arg Arg  
 20 25 30  
 Met Thr Ala Trp Arg Ser Arg Leu Pro Leu Ser Arg Arg Met Asn Leu  
 35 40 45  
 Ser Arg Pro Ser Met Arg Gln Ala Thr Met Pro Arg Ile Ser Ala Ser  
 50 55 60  
 Leu  
 65

<210> 195

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<211> 71  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> >New ORF = left: 15543 right: 15755 frame: -1 size(aa): 71

<400> 195

Val Ser Thr Pro Thr Pro Pro Ser Gly Cys Val Arg Ser Leu Pro Ser  
 1 5 10 15  
 Cys Glu Asp Thr Pro Ser Phe Lys Glu Arg Pro Arg Ser Trp Ala Trp  
 20 25 30  
 Ser Pro Gly Ala Ser Thr Ala Ser Thr Asn Ser Ser Ala Glu Thr Thr  
 35 40 45  
 Ala Ala Gly Ile Ser Met Leu Ser Ser Ala Gly Ser Ser Thr Ala Pro  
 50 55 60  
 Gly Arg Ala Ala Cys Leu Pro  
 65 70

<210> 196  
 <211> 94  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> >New ORF = left: 15725 right: 16006 frame: 3 size(aa): 94

<400> 196

Arg Ser Leu Thr Ala Ala Trp Val Leu Arg Leu Thr Gly Val Glu Trp  
 1 5 10 15  
 Trp Ser Gly Leu Tyr Gly Glu Gly Pro Leu Ala Glu Pro Leu Gly Ser  
 20 25 30  
 Ile Gly Gln Asn Gly Ile Ser Ser Ser Pro Arg Thr Pro Val Gly Ala  
 35 40 45  
 Gly Ala Trp Asp Cys His Thr Gly Gly Trp Pro Val Gly Thr Gly Ala  
 50 55 60  
 Pro Ala Trp Ser Ala Ala Pro Thr Trp Ala Gly Val Gly Cys Gly Ala  
 65 70 75 80  
 Ala Gly Gly Ala Tyr Gly Trp Pro Gly Glu Pro Pro Cys Pro  
 85 90

<210> 197  
 <211> 198  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> >New ORF = left: 15753 right: 16346 frame: 1 size(aa): 198

<400> 197



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Asp Ser Arg Gly Trp Ser Gly Gly Val Val Cys Thr Gly Arg Gly Pro  
 1 5 10 15  
 Leu Arg Ser Pro Trp Asp Arg Ser Val Arg Thr Gly Phe Arg Pro Arg  
 20 25 30  
 Pro Gly Arg Arg Ser Gly Pro Ala Pro Gly Thr Ala Thr Pro Gly Ala  
 35 40 45  
 Gly Arg Ser Ala Pro Gly Arg Leu Arg Gly Ala Leu Arg Arg Pro Gly  
 50 55 60  
 Pro Gly Ser Ala Ala Gly Arg Pro Glu Gly Arg Thr Ala Gly Pro Gly  
 65 70 75 80  
 Ser Arg Leu Ala Arg Arg Pro Gly Pro Pro Gly Pro Gly Pro Glu Arg  
 85 90 95  
 Glu Gly Leu Pro Gly Ser Pro Thr Ala Gly Ser Gly Gly Ser Thr Pro  
 100 105 110  
 Ala Gly Ala Ala Ala Arg Pro Val Arg Val Pro Gly Pro Gly Arg Ala  
 115 120 125  
 Gly Ala Ser Pro Thr Gly Arg Ser Gly Gly Ser Ser Arg Ala Gly Glu  
 130 135 140  
 Gly His Arg Pro Gly Ala Pro Gly Ala His Gly Pro Gly Gly Pro Gly  
 145 150 155 160  
 Pro Gly Ala Ala Ala Gly Ala Gly Arg Gly Thr Arg Ser Gly Ala Ala  
 165 170 175  
 Gly Ser Gly Ala Arg Cys Lys Ala Cys Arg Cys Gly Ser Ala Ser Ser  
 180 185 190  
 Thr Arg Arg Cys Arg Ala  
 195

<210> 198

<211> 99

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> >New ORF = left: 15759 right: 16055 frame: -1 size(aa): 99

<400> 198

Pro Arg Glu Pro Leu Pro Leu Arg Pro Arg Pro Arg Arg Pro Arg Pro  
 1 5 10 15  
 Thr Gly Lys Ala Ala Pro Arg Ala Ser Arg Thr Pro Leu Arg Pro Pro  
 20 25 30  
 Arg Ser Arg Pro Arg Pro Arg Ser Ala Gln Arg Ser Thr Gln Ala Pro  
 35 40 45  
 Arg Cys Arg Pro Ala Ser Pro Arg Cys Gly Ser Pro Arg Arg Arg Pro  
 50 55 60  
 Arg Pro Ala Ser Trp Ala Arg Thr Lys Ser Arg Ser Asp Arg Ser Ile  
 65 70 75 80  
 Pro Gly Ala Pro Gln Gly Ala Pro Pro Arg Thr Asn His Ser Thr Thr  
 85 90 95

Pro Pro Pro

<210> 199  
 <211> 257  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> >New ORF = left: 15829 right: 16599 frame: -2 size(aa): 257

&lt;400&gt; 199

Arg Val Arg Pro Leu Ser Arg Thr Thr Thr Thr Pro Asn Arg Ser Leu  
 1 5 10 15  
 Ser Met Gln Ala Pro Tyr Gly Gln Pro Gln Pro Gln Pro Gln Ala Gln  
 20 25 30  
 Ala Pro Gln Leu Pro Ala Leu Asn Gly Ser Leu Phe Val Asp Asp Ser  
 35 40 45  
 Gln Asn Arg Ile Asp Tyr Ser Gly Ser Cys Thr Ile Thr Ala Gln Asp  
 50 55 60  
 Val Ala Ala Leu Ala Asp Tyr Leu Phe Ser Asn Arg Ala Glu Ala Asp  
 65 70 75 80  
 Gln Tyr Gly Leu Lys Leu Tyr Ile Ser Gly Trp Lys Lys Gln Ser Arg  
 85 90 95  
 Asn Gly Lys Pro Tyr Ile Ser Leu Gln Ile Gln Pro Pro Arg Asn Ala  
 100 105 110  
 Phe Leu Gly Leu Pro Gln Gln Gln Arg Gln Ala Pro Ala Pro Gln Ala  
 115 120 125  
 His Ala Pro Gln Ala Pro Pro Ala Gly Ala Pro Pro Gln Pro Tyr Trp  
 130 135 140  
 Asn Pro Gln Thr Gly Gln Trp Val Thr Pro Gln Pro Ala Pro Ala Pro  
 145 150 155 160  
 Ala Pro Ala Pro Ala Ala Gln Pro Pro Gln Pro Val Trp Asn Pro Gln  
 165 170 175  
 Thr Gln Gln Trp Val Thr Pro Gly Ala Pro Pro Ala Gln Ala Pro Ala  
 180 185 190  
 Pro Ala Ala Pro Ala Tyr Gly Gln Gly Gly Ser Pro Gly Gln Pro Tyr  
 195 200 205  
 Ala Pro Pro Ala Ala Pro Gln Pro Thr Pro Ala Gln Val Gly Ala Ala  
 210 215 220  
 Leu His Ala Gly Ala Pro Val Pro Thr Gly Gln Pro Pro Val Trp Gln  
 225 230 235 240  
 Ser Gln Ala Pro Ala Pro Thr Gly Val Leu Gly Glu Asp Glu Ile Pro  
 245 250 255  
 Phe

&lt;210&gt; 200

<211> 146  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> >New ORF = left: 16146 right: 16583 frame: -1 size(aa): 146

<400> 200

Ala Gly Pro Arg Pro His Pro Thr Ala Leu Phe Gln Cys Lys Pro Pro  
 1 5 10 15  
 Thr Ala Ser Pro Ser Pro Ser Pro Arg Pro Arg Pro Pro Ser Cys Pro  
 20 25 30  
 Pro Ser Thr Ala Pro Cys Ser Ser Thr Thr Ala Arg Thr Gly Ser Thr  
 35 40 45  
 Thr Ala Ala Pro Ala Pro Ser Arg Pro Arg Thr Ser Pro Pro Ser Leu  
 50 55 60  
 Thr Thr Cys Ser Arg Thr Gly Pro Arg Pro Thr Ser Thr Ala Ser Ser  
 65 70 75 80  
 Ser Thr Ser Pro Gly Gly Arg Ser Arg Ala Ala Thr Ala Ser Leu Thr  
 85 90 95  
 Ser Arg Ser Arg Ser Ser Arg Pro Gly Thr Arg Ser Ser Ala Cys Pro  
 100 105 110  
 Ser Ser Ser Ala Arg Pro Arg Pro Pro Arg Pro Met Arg Pro Arg Arg  
 115 120 125  
 Pro Arg Pro Val Pro Leu Pro Ser Pro Thr Gly Thr Pro Arg Pro Ala  
 130 135 140  
 Ser Gly  
 145

<210> 201  
 <211> 111  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> >New ORF = left: 16394 right: 16726 frame: -3 size(aa): 111

<400> 201

Arg Pro Ser Arg Arg Arg Pro Ser Pro Arg Ser Thr Ala Gly Thr Arg  
 1 5 10 15  
 Thr Thr Arg Ser Ala Ser Ala Pro Pro Gly Arg Arg Pro Arg Ala Arg  
 20 25 30  
 Pro Arg Trp Pro Ser Ser Arg Ala Pro Leu Thr Arg Ser Ala Ser Glu  
 35 40 45  
 Pro Asp His Asp His Thr Gln Pro Leu Ser Phe Asn Ala Ser Pro Leu  
 50 55 60  
 Arg Pro Ala Pro Ala Pro Ala Pro Gly Pro Gly Pro Pro Ala Ala Arg  
 65 70 75 80

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Pro Gln Arg Leu Pro Val Arg Arg Arg Gln Pro Glu Pro Asp Arg Leu  
85 90 95

Gln Arg Leu Leu His His His Gly Pro Gly Arg Arg Arg Pro Arg  
100 105 110

<210> 202

<211> 251

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> >New ORF = left: 16485 right: 17237 frame: 1 size(aa): 251

<400> 202

Gly Arg Ala Ala Gly Gly Pro Gly Pro Gly Ala Gly Ala Gly Ala Gly  
1 5 10 15

Arg Arg Gly Leu Ala Leu Lys Glu Ser Gly Trp Val Trp Ser Trp Ser  
20 25 30

Gly Ser Glu Ala Glu Arg Val Ser Gly Ala Leu Leu Asp Gly Gln Arg  
35 40 45

Gly Arg Ala Leu Gly Arg Arg Pro Gly Gly Ala Glu Ala Glu Arg Val  
50 55 60

Val Arg Val Pro Ala Val Leu Arg Gly Asp Gly Arg Arg Arg Leu Gly  
65 70 75 80

Arg His Ala Val Leu Ser Val Gly Arg Gly His Ala Glu Asp Gly His  
85 90 95

His Ser Val Pro Ala Lys Val Arg Asp Arg Gly Ala Gln Leu Leu Ile  
100 105 110

Gly Gly Val Ala Leu Gly Arg Leu Val Glu Gln Asp Asp Arg Glu Leu  
115 120 125

Arg Gly Asp Ala Gly Pro Gly Leu Val Val Glu Pro Gly Gly Glu Asp  
130 135 140

Gly Asp Pro Gly Leu Trp Ala Pro Val Lys Gly Leu Asp Asp Arg Gln  
145 150 155 160

Pro Glu Leu Val Arg Leu Pro Asp Ser Leu Glu Asp Gly Ala Gln Val  
165 170 175

Asp Val Gly Ala Glu Ala Ala Val Gly Gly Ala Leu Asp Asp Ala Val  
180 185 190

Leu Gly Leu Glu Leu Gly Gln Arg Leu Glu Gln Glu Arg His Pro Trp  
195 200 205

Val Ser Gly Gly His Arg Gly Thr Arg Arg Trp Cys Ser Arg Arg Arg  
210 215 220

Ala Arg Ala Asp Pro Gly Arg Thr Ala Ala Gly Ala Arg Arg Ser Pro  
225 230 235 240

Gly Gly Arg Ser Arg Trp Ser Leu Gln Arg Arg  
245 250

<210> 203

<211> 55

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<212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> >New ORF = left: 16538 right: 16702 frame: 3 size(aa): 55

<400> 203  
 Gly Ala Cys Ile Glu Arg Glu Arg Leu Gly Val Val Val Val Arg Leu  
 1 5 10 15  
 Arg Gly Arg Thr Arg Gln Arg Arg Pro Ala Gly Trp Pro Ala Gly Ala  
 20 25 30  
 Gly Pro Gly Ala Ala Ala Arg Arg Gly Arg Gly Arg Thr Arg Arg Ser  
 35 40 45  
 Gly Pro Arg Cys Ala Ala Gly  
 50 55

<210> 204  
 <211> 88  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> >New ORF = left: 16552 right: 16815 frame: 2 size(aa): 88

<400> 204  
 Lys Arg Ala Val Gly Cys Gly Arg Gly Pro Ala Gln Arg Pro Asn Ala  
 1 5 10 15  
 Ser Ala Ala Pro Cys Trp Met Ala Ser Gly Gly Gly Pro Trp Gly Gly  
 20 25 30  
 Gly Pro Glu Gly Pro Arg Pro Asn Ala Ser Phe Gly Ser Pro Leu Cys  
 35 40 45  
 Cys Gly Val Met Ala Ala Val Gly Trp Gly Val Met Leu Ser Ser Val  
 50 55 60  
 Ser Ala Glu Ala Met Pro Arg Met Ala Ile Thr Ala Tyr Arg Arg Arg  
 65 70 75 80  
 Tyr Val Ile Val Ala Pro Ser Cys  
 85

<210> 205  
 <211> 212  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> >New ORF = left: 16587 right: 17222 frame: -1 size(aa): 212

<400> 205  
 Pro Thr Arg Ser Ala Ser Arg Arg Ser Pro Ser Thr Cys Ser Ser Thr  
 1 5 10 15  
 Ala Arg Ile Ser Pro Gly Pro Pro Thr Arg Thr Pro Ser Ser Ser Ser  
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20 25 30  
 Pro Met Thr Ser Ala Asp Pro Arg Met Pro Leu Leu Leu Lys Ala Leu  
 35 40 45  
 Ala Gln Phe Gln Ala Glu His Ser Val Val Glu Arg Thr Ala Asp Gly  
 50 55 60  
 Ser Phe Gly Pro Tyr Val Asp Leu Ser Ala Val Leu Lys Ala Val Arg  
 65 70 75 80  
 Glu Ala Asn Lys Leu Gly Leu Ser Ile Val Gln Thr Phe Asp Arg Gly  
 85 90 95  
 Pro Glu Pro Gly Val Ala Val Leu Ser Thr Trp Leu Tyr His Glu Ser  
 100 105 110  
 Gly Ala Cys Val Ser Ser Glu Leu Pro Val Val Leu Phe Tyr Glu Pro  
 115 120 125  
 Thr Lys Arg Asn Thr Ser Asn Gln Gln Leu Gly Ala Thr Ile Thr Tyr  
 130 135 140  
 Leu Arg Arg Tyr Ala Val Met Ala Ile Leu Gly Met Ala Ser Ala Asp  
 145 150 155 160  
 Thr Glu Asp Ser Met Thr Pro Gln Pro Thr Ala Ala Ile Thr Pro Gln  
 165 170 175  
 His Ser Gly Asp Pro Asn Asp Ala Phe Gly Leu Gly Pro Ser Gly Pro  
 180 185 190  
 Pro Pro Gln Gly Pro Pro Pro Leu Ala Ile Gln Gln Gly Ala Ala Asp  
 195 200 205  
 Ala Phe Gly Leu  
 210

<210> 206  
 <211> 67  
 <212> PRT  
 <213> Cyanophage S-2L  
  
 <220>  
 <221> misc\_feature  
 <223> >New ORF = left: 16741 right: 16941 frame: -2 size(aa): 67

<400> 206  
 Pro Gly Pro Arg Ala Arg Gly Arg Arg Pro Leu His Leu Ala Leu Pro  
 1 5 10 15  
 Arg Val Arg Gly Leu Arg Leu Leu Gly Ala Pro Gly Arg Pro Val Leu  
 20 25 30  
 Arg Ala Asp Gln Ala Gln His Leu Gln Ser Ala Ala Gly Arg His Asp  
 35 40 45  
 His Val Pro Ser Pro Val Arg Cys Asp Gly His Pro Arg His Gly Leu  
 50 55 60  
 Gly Arg His  
 65

<210> 207  
 <211> 77  
 <212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> >New ORF = left: 16775 right: 17005 frame: -3 size(aa): 77

<400> 207

Ala Pro Ser Ser Arg Leu Ser Gly Arg Arg Thr Ser Ser Gly Cys Arg  
1 5 10 15  
Ser Ser Arg Pro Leu Thr Gly Ala Gln Ser Pro Gly Ser Pro Ser Ser  
20 25 30  
Pro Pro Gly Ser Thr Thr Ser Pro Gly Pro Ala Ser Pro Arg Ser Ser  
35 40 45  
Arg Ser Ser Cys Ser Thr Ser Arg Pro Ser Ala Thr Pro Pro Ile Ser  
50 55 60  
Ser Trp Ala Pro Arg Ser Arg Thr Phe Ala Gly Thr Leu  
65 70 75

<210> 208

<211> 65

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> >New ORF = left: 16799 right: 16993 frame: 3 size(aa): 65

<400> 208

Ser Trp Arg Pro Ala Ala Asp Trp Arg Cys Cys Ala Trp Ser Ala Arg  
1 5 10 15  
Arg Thr Gly Arg Pro Gly Ala Pro Arg Arg Arg Arg Pro Arg Thr Arg  
20 25 30  
Gly Arg Ala Arg Trp Arg Gly Arg Arg Pro Arg Ala Leu Gly Pro Gly  
35 40 45  
Gln Arg Ser Gly Arg Ser Thr Ala Arg Ala Cys Ser Pro Pro Gly Gln  
50 55 60  
Pro  
65

<210> 209

<211> 55

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> >New ORF = left: 16945 right: 17109 frame: -2 size(aa): 55

<400> 209

Pro Thr Asp Ala Ala Pro Ala Gln Gly Ala Gly Pro Val Pro Gly Arg  
1 5 10 15  
Ala Gln Arg Arg Arg Ala His Arg Arg Arg Gln Leu Arg Pro Leu Arg  
20 25 30

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Arg Pro Glu Arg Arg Pro Gln Gly Cys Pro Gly Gly Glu Gln Ala Arg  
35 40 45

Ala Val Asp Arg Pro Asp Leu  
50 55

<210> 210

<211> 190

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> >New ORF = left: 17020 right: 17589 frame: 2 size(aa): 190

<400> 210

Gly Pro Lys Leu Pro Ser Ala Val Arg Ser Thr Thr Leu Cys Ser Ala  
1 5 10 15

Trp Asn Trp Ala Ser Ala Leu Ser Arg Ser Gly Ile Arg Gly Ser Ala  
20 25 30

Glu Val Ile Gly Glu Leu Asp Asp Gly Val Leu Val Gly Gly Pro Gly  
35 40 45

Leu Ile Leu Ala Val Leu Leu Gln Val Leu Gly Asp Leu Leu Glu Ala  
50 55 60

Asp Leu Val Gly His Cys Ser Gly Val Asp Gly Ile Val Arg Glu Pro  
65 70 75 80

Asp Asp Pro Gly Gly Val Gly Arg Leu Arg Leu Glu Gln His Gln Gln  
85 90 95

Leu Pro Leu Gly Arg Thr Ala Gly Gln Ala Glu Asp Leu Glu Val Val  
100 105 110

Gly Arg Leu Met Ile Val Ala Val Val Pro Asp Arg Pro Leu Glu Leu  
115 120 125

Ala Ile Ala Gly Val Gly Arg Gly Leu Asp Val Asp Gln Pro Pro Gly  
130 135 140

Ala Gly Pro Arg Val Glu Pro Asp Leu Glu Leu Gln Ala Arg Gly Arg  
145 150 155 160

Val Asp Arg Glu Asp Arg Leu Leu Gly Gly Asp His Arg Leu Gly Asp  
165 170 175

Ala Leu Asn Asp Gly Val Leu Glu Gly Asp Val Pro His Gly  
180 185 190

<210> 211

<211> 347

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> >New ORF = left: 17113 right: 18153 frame: -2 size(aa): 347

<400> 211

Ser Leu Tyr Arg Gly Arg Glu Pro Pro Gln Ser His Asn Asn Arg Gly  
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1           5           10           15
Pro Phe Ser Arg Asp Leu Pro Pro Leu Ala Pro Arg Met Ala Leu Leu
      20      25      30
Pro Trp Pro Ser Ala Arg His Pro Tyr Cys Tyr Leu Pro Ala Arg Trp
      35      40      45
Asp Pro Gly Ala Tyr Asp Pro Gly Val Pro Gly Pro Val Pro Gly Asp
      50      55      60
Pro Met Thr Gln Ala Pro Gln Ala Pro Glu Pro Thr Pro Glu Glu Leu
      65      70      75      80
Gln Pro Gln Pro Pro Lys Leu Thr Asn Glu Gln His His Ala His Pro
      85      90      95
Ala Ile Gly Ser Ser Asp Leu Lys Leu Phe Arg Arg Ser Pro Leu His
      100      105      110
Tyr Trp His Arg Lys Tyr Ser Pro Ser Phe Val Pro Lys Pro Pro Ser
      115      120      125
Ala Ser Met Gln Met Gly Thr Ala Leu His Ile Ala Leu Leu Glu Pro
      130      135      140
Glu Arg Phe Glu Lys Ala Val Gly Gln Ala Leu Thr Thr Pro Lys Thr
      145      150      155      160
Ser Lys Ala Ala Lys Glu Ala His Ala Glu His Asp Ala Lys Tyr Glu
      165      170      175
Leu Thr Ile Pro Pro Ala Ala Tyr Gln Gln Val Leu Ala Met Arg Asp
      180      185      190
Val Ala Leu Lys His Pro Val Ile Lys Arg Ile Ala Glu Thr Val Val
      195      200      205
Ser Thr Glu Glu Ser Val Phe Ala Ile Asp Pro Thr Thr Gly Leu Glu
      210      215      220
Leu Lys Ile Arg Leu Asp Ala Trp Thr Ser Pro Gly Trp Leu Ile Asp
      225      230      235      240
Val Lys Thr Thr Ala Asp Ala Ser Asn Gly Lys Phe Lys Trp Ser Ile
      245      250      255
Arg Asp Tyr Gly Tyr Asp His Gln Ala Ala Tyr Tyr Leu Lys Val Leu
      260      265      270
Arg Leu Ala Gly Arg Pro Pro Gln Gly Gln Leu Leu Val Leu Leu Glu
      275      280      285
Ser Glu Ala Pro His Ala Ala Arg Val Val Arg Leu Pro Asp Asp Ala
      290      295      300
Ile Asn Ala Ala Ala Val Thr Asn Glu Ile Cys Leu Gln Glu Ile Ala
      305      310      315      320
Glu His Leu Gln Gln Tyr Gly Gln Asp Gln Pro Trp Pro Ala Tyr Glu
      325      330      335
Asn Thr Ile Val Glu Phe Pro Tyr Asp Leu Arg
      340      345

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<210> 212
<211> 143
<212> PRT

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<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> >New ORF = left: 17123 right: 17551 frame: -3 size(aa): 143

<400> 212

```

Ala His Arg Arg Asp Gly Gly Leu His Arg Gly Val Gly Leu Arg Asp
1      5      10      15
Arg Pro Asp His Gly Pro Gly Ala Gln Asp Pro Ala Arg Arg Val Asp
20     25     30
Gln Pro Arg Val Ala Asp Arg Arg Gln Asp His Gly Arg Arg Gln Gln
35     40     45
Trp Gln Val Gln Val Val Asp Pro Gly Leu Arg Leu Arg Ser Ser Gly
50     55     60
Gly Leu Leu Pro Gln Gly Pro Pro Pro Gly Arg Pro Ser Ala Pro Gly
65     70     75     80
Ala Val Ala Gly Ala Ala Arg Val Gly Gly Ala Pro Arg Arg Pro Gly
85     90     95
Arg Pro Ala Pro Gly Arg Cys His Gln Arg Arg Cys Ser Asp Gln Arg
100    105    110
Asp Leu Pro Pro Gly Asp Arg Arg Ala Pro Ala Ala Val Arg Pro Gly
115    120    125
Ser Ala Leu Ala Arg Leu Arg Glu His His Arg Arg Val Pro Leu
130    135    140

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<210> 213

<211> 61

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> >New ORF = left: 17168 right: 17350 frame: 3 size(aa): 61

<400> 213

```

Ser Trp Pro Tyr Cys Cys Arg Cys Ser Ala Ile Ser Trp Arg Gln Ile
1      5      10      15
Ser Leu Val Thr Ala Ala Ala Leu Met Ala Ser Ser Gly Ser Arg Thr
20     25     30
Thr Arg Ala Ala Trp Gly Ala Ser Asp Ser Ser Ser Thr Ser Asn Cys
35     40     45
Pro Trp Gly Gly Arg Pro Ala Arg Arg Arg Thr Leu Arg
50     55     60

```

<210> 214

<211> 71

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> >New ORF = left: 17226 right: 17438 frame: -1 size(aa): 71

&lt;400&gt; 214

Ser Thr Ser Arg Pro Arg Pro Thr Pro Ala Met Ala Ser Ser Ser Gly  
 1 5 10 15  
 Arg Ser Gly Thr Thr Ala Thr Ile Ile Arg Arg Pro Thr Thr Ser Arg  
 20 25 30  
 Ser Ser Ala Trp Pro Ala Val Arg Pro Arg Gly Ser Cys Trp Cys Cys  
 35 40 45  
 Ser Ser Arg Arg Arg Pro Thr Pro Pro Gly Ser Ser Gly Ser Arg Thr  
 50 55 60  
 Met Pro Ser Thr Pro Leu Gln  
 65 70

&lt;210&gt; 215

&lt;211&gt; 74

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; &gt;New ORF = left: 17381 right: 17602 frame: 3 size(aa): 74

&lt;400&gt; 215

Ser Arg Ile Asp His Leu Asn Leu Pro Leu Leu Ala Ser Ala Val Val  
 1 5 10 15  
 Leu Thr Ser Ile Ser His Pro Gly Leu Val His Ala Ser Ser Arg Ile  
 20 25 30  
 Leu Ser Ser Arg Pro Val Val Gly Ser Ile Ala Lys Thr Asp Ser Ser  
 35 40 45  
 Val Glu Thr Thr Val Ser Ala Met Arg Leu Met Thr Gly Cys Leu Arg  
 50 55 60  
 Ala Thr Ser Arg Met Ala Asn Thr Cys Trp  
 65 70

&lt;210&gt; 216

&lt;211&gt; 231

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; &gt;New ORF = left: 17555 right: 18247 frame: -3 size(aa): 231

&lt;400&gt; 216

Trp Ser Gly Ser Gly Arg Arg Pro Gly Pro Gly Thr Gly Gly Arg Pro  
 1 5 10 15  
 Tyr Ser Gln Arg Ala Val Leu Trp Arg Ala Ser Arg His Val Ile Val  
 20 25 30  
 Val Val Pro Gly Ala Gly Ala Pro Thr Ile Pro Gln Gln Pro Trp Thr  
 35 40 45  
 Phe Leu Lys Arg Pro Thr Ala Ser Gly Thr Ser Asp Gly Ala Ser Thr  
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50                      55                      60  
 Val Ala Leu Gly Ala Ala Pro Val Leu Leu Ser Pro Arg Lys Val Gly  
 65                      70                      75                      80  
 Pro Arg Cys Leu Arg Pro Arg Ser Ser Gly Thr Cys Ala Gly Arg Pro  
                     85                      90                      95  
 Asp Asp Pro Gly Thr Pro Gly Pro Gly Ala His Pro Gly Gly Ala Pro  
                     100                      105                      110  
 Ala Pro Ala Pro Gln Ala His Gln Arg Ala Ala Pro Arg Pro Pro Arg  
                     115                      120                      125  
 Asp Arg Ile Glu Arg Pro Gln Ala Leu Pro Pro Val Ala Ala Pro Leu  
                     130                      135                      140  
 Leu Ala Pro Gln Val Gln Pro Leu Val Arg Thr Glu Ala Ala Leu Gly  
 145                      150                      155                      160  
 Leu Asp Ala Asp Gly Asp Arg Pro Ala His Arg Pro Ala Arg Ala Gly  
                     165                      170                      175  
 Ala Leu Arg Glu Gly Gly Arg Ser Gly Ala Asp Asp Ala Gln Asp Val  
                     180                      185                      190  
 Glu Gly Gly Gln Gly Gly Pro Arg Arg Ala Arg Arg Gln Val Arg Ala  
                     195                      200                      205  
 His Asp Pro Pro Gly Gly Leu Pro Ala Gly Val Ser His Ala Gly Arg  
                     210                      215                      220  
 Arg Pro Gln Ala Pro Arg His  
 225                      230  
 <210> 217  
 <211> 155  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> >New ORF = left: 17593 right: 18057 frame: 2 size(aa): 155

<400> 217

His Leu Leu Val Gly Arg Arg Gly Asp Arg Glu Leu Val Leu Gly Val  
 1                      5                      10                      15  
 Val Leu Gly Val Gly Leu Leu Gly Arg Leu Arg Arg Leu Gly Arg Arg  
                     20                      25                      30  
 Gln Arg Leu Thr Asp Arg Leu Leu Glu Ala Leu Arg Leu Glu Gln Gly  
                     35                      40                      45  
 Asp Val Gln Gly Gly Pro His Leu His Arg Gly Arg Gly Arg Leu Arg  
                     50                      55                      60  
 Tyr Glu Arg Gly Ala Val Leu Ala Val Pro Val Val Glu Arg Arg Pro  
 65                      70                      75                      80  
 Ala Glu Glu Leu Glu Val Ala Arg Ser Asp Arg Gly Val Gly Val Val  
                     85                      90                      95  
 Leu Leu Val Gly Glu Leu Gly Gly Leu Gly Leu Glu Leu Leu Arg Gly  
                     100                      105                      110

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Gly Leu Arg Gly Leu Gly Cys Leu Gly His Arg Val Ala Arg His Arg  
115 120 125

Ser Arg Asn Ser Trp Val Val Ser Thr Trp Val Pro Pro Cys Gly Glu  
130 135 140

Ile Ala Val Arg Val Pro Arg Arg Gly Pro Arg  
145 150 155

<210> 218

<211> 73

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> >New ORF = left: 17625 right: 17843 frame: 1 size(aa): 73

<400> 218

Ala Arg Thr Trp Arg Arg Ala Arg Arg Gly Pro Pro Trp Pro Pro Ser  
1 5 10 15

Thr Ser Trp Ala Ser Ser Ala Pro Asp Arg Pro Pro Ser Arg Ser Ala  
20 25 30

Pro Ala Arg Ala Gly Arg Cys Ala Gly Arg Ser Pro Ser Ala Ser Arg  
35 40 45

Pro Arg Ala Ala Ser Val Arg Thr Arg Gly Cys Thr Cys Gly Ala Ser  
50 55 60

Ser Gly Ala Ala Thr Gly Gly Arg Ala  
65 70

<210> 219

<211> 88

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> >New ORF = left: 17691 right: 17954 frame: -1 size(aa): 88

<400> 219

Pro Arg His Pro Arg Pro Arg Ser Pro Pro Arg Arg Ser Ser Ser Pro  
1 5 10 15

Ser Pro Pro Ser Ser Pro Thr Ser Ser Thr Thr Pro Thr Pro Arg Ser  
20 25 30

Asp Arg Ala Thr Ser Ser Ser Ser Ala Gly Arg Arg Ser Thr Thr Gly  
35 40 45

Thr Ala Ser Thr Ala Pro Arg Ser Tyr Arg Ser Arg Pro Arg Pro Arg  
50 55 60

Cys Arg Trp Gly Pro Pro Cys Thr Ser Pro Cys Ser Ser Arg Ser Ala  
65 70 75 80

Ser Arg Arg Arg Ser Val Arg Arg  
85

<210> 220

<211> 59

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<212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> >New ORF = left: 17819 right: 17995 frame: 3 size(aa): 59

<400> 220  
 Trp Ser Gly Asp Arg Arg Lys Ser Leu Arg Ser Leu Asp Pro Ile Ala  
 1 5 10 15  
 Gly Trp Ala Trp Cys Cys Ser Leu Val Ser Leu Gly Gly Trp Gly Trp  
 20 25 30  
 Ser Ser Ser Gly Val Gly Ser Gly Ala Trp Gly Ala Trp Val Ile Gly  
 35 40 45  
 Ser Pro Gly Thr Gly Pro Gly Thr Pro Gly Ser  
 50 55

<210> 221  
 <211> 101  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> >New ORF = left: 17895 right: 18197 frame: 1 size(aa): 101

<400> 221  
 Ala Trp Gly Ala Gly Ala Gly Ala Pro Pro Gly Trp Ala Pro Gly Pro  
 1 5 10 15  
 Gly Val Pro Gly Ser Ser Gly Arg Pro Ala Gln Val Pro Glu Leu Leu  
 20 25 30  
 Gly Arg Lys His Leu Gly Pro Thr Leu Arg Gly Asp Ser Ser Thr Gly  
 35 40 45  
 Ala Ala Pro Arg Ala Thr Val Glu Ala Pro Ser Glu Val Pro Glu Ala  
 50 55 60  
 Val Gly Leu Leu Arg Lys Val His Gly Cys Cys Gly Ile Val Gly Ala  
 65 70 75 80  
 Pro Ala Pro Gly Thr Thr Thr Ile Thr Cys Arg Leu Ala Arg His Asn  
 85 90 95  
 Thr Ala Arg Cys Glu  
 100

<210> 222  
 <211> 70  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> >New ORF = left: 17958 right: 18167 frame: -1 size(aa): 70

<400> 222  
 Pro Ala Cys Tyr Ser Arg Cys Thr Gly Gly Gly Ser Pro His Asn Pro  
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1 5 10 15  
 Thr Thr Thr Val Asp Leu Ser Gln Glu Thr Tyr Arg Leu Trp His Leu  
 20 25 30  
 Gly Trp Arg Phe Tyr Arg Gly Pro Arg Arg Gly Thr Arg Thr Ala Ile  
 35 40 45  
 Ser Pro Gln Gly Gly Thr Gln Val Leu Thr Thr Gln Glu Phe Arg Asp  
 50 55 60  
 Leu Cys Arg Ala Thr Arg  
 65 70  
 <210> 223  
 <211> 113  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> >New ORF = left: 18029 right: 18367 frame: 3 size(aa): 113

<400> 223  
 Gln Tyr Gly Cys Arg Ala Glu Gly His Gly Arg Ser Ala Ile Arg Gly  
 1 5 10 15  
 Ala Arg Gly Gly Arg Ser Leu Glu Lys Gly Pro Arg Leu Leu Trp Asp  
 20 25 30  
 Cys Gly Gly Ser Arg Pro Arg Tyr Asn Asp Tyr Asn Met Pro Ala Ser  
 35 40 45  
 Pro Pro Gln Tyr Cys Pro Leu Arg Val Gly Pro Ser Thr Gly Pro Gly  
 50 55 60  
 Pro Arg Pro Pro Ala Arg Pro Gly Pro Ser Val Arg Pro Arg Pro Ser  
 65 70 75 80  
 Ser Cys Ala Arg Arg Arg Trp Arg Phe Ala Gln Pro Ala Gly Arg Arg  
 85 90 95  
 Thr Gly Ala Gly Ala Pro Pro Arg Gly Gly Pro Thr Ala Arg Ala Phe  
 100 105 110  
 Pro

<210> 224  
 <211> 103  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> >New ORF = left: 18157 right: 18465 frame: -2 size(aa): 103

<400> 224  
 Met Ala Pro Gln Thr Ala Val Pro Arg Pro Gln Pro Ala Gly Cys Leu  
 1 5 10 15  
 Arg Gly Gln Leu Leu Glu Arg Val Gly His Pro Pro Gly Leu Gly Ala  
 20 25 30

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Gln Gly Asn Ala Arg Ala Val Gly Pro Pro Arg Gly Gly Ala Pro Ala  
 35 40 45  
 Pro Val Leu Arg Pro Ala Gly Trp Ala Asn Arg His Arg Leu Arg Ala  
 50 55 60  
 Gln Leu Leu Gly Arg Gly Arg Thr Asp Gly Pro Gly Arg Ala Gly Gly  
 65 70 75 80  
 Leu Gly Pro Gly Pro Val Glu Gly Pro Thr Arg Ser Gly Gln Tyr Cys  
 85 90 95  
 Gly Gly Leu Ala Gly Met Leu  
 100

<210> 225  
 <211> 105  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> >New ORF = left: 18171 right: 18485 frame: -1 size(aa): 105

<400> 225  
 Asp Arg Ala Met Arg Asn Glu Trp Pro Leu Lys Gln Leu Ser Pro Val  
 1 5 10 15  
 His Asn Gln Leu Gly Val Phe Glu Ala Ser Cys Trp Ser Glu Ser Asp  
 20 25 30  
 Ile Pro Pro Asp Trp Glu Leu Lys Gly Thr Leu Val Arg Ser Gly Leu  
 35 40 45  
 Pro Gly Glu Val His Arg His Arg Phe Tyr Asp Leu Arg Ala Gly Arg  
 50 55 60  
 Ile Ala Ile Val Phe Glu His Ser Cys Leu Gly Glu Asp Ala Leu Met  
 65 70 75 80  
 Val Arg Val Gly Pro Ala Ala Trp Ala Arg Asp Arg Trp Lys Ala Leu  
 85 90 95  
 Leu Ala Ala Gly Ser Ile Val Ala Gly  
 100 105

<210> 226  
 <211> 183  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> >New ORF = left: 18201 right: 18749 frame: 1 size(aa): 183

<400> 226  
 Gly Leu Pro Pro Val Pro Gly Pro Gly Arg Arg Pro Asp Pro Asp His  
 1 5 10 15  
 Gln Cys Val Leu Ala Gln Ala Ala Val Leu Glu Asp Asp Gly Asp Ser  
 20 25 30  
 Pro Ser Pro Gln Val Val Glu Pro Val Pro Val His Leu Pro Gly Glu  
 35 40 45



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Ala Arg Pro His Glu Arg Ser Leu Glu Leu Pro Val Arg Gly Asp Val  
50 55 60  
Arg Leu Ala Pro Ala Ala Gly Leu Glu Asp Thr Gln Leu Val Val Asp  
65 70 75 80  
Gly Gly Gln Leu Phe Glu Gly Pro Phe Ile Pro His Ser Pro Ile Leu  
85 90 95  
Pro Pro Trp Gly Gly Gly Arg Arg Arg Ser Pro Ser Gly Cys Gly Ala  
100 105 110  
Gly Pro Asp Gly Arg Pro Ser Ser Cys Ala Val Ser Cys Ala Gly Cys  
115 120 125  
Leu Ala Cys Arg Pro Arg Ser Ala Ser Ala Arg Ser Ala Pro Ala Pro  
130 135 140  
Gly Pro Pro Trp Gly Pro Gly Arg Pro Gly Ser Pro Thr Pro Gly Pro  
145 150 155 160  
Gly Ser Gly Arg Ser Ala Gly Gln Pro Ala Ser Gly Ser Thr Arg Ser  
165 170 175  
Arg Tyr Pro Cys Ser Gly Gly  
180

<210> 227  
<211> 166  
<212> PRT  
<213> Cyanophage S-2L  
<220>  
<221> misc\_feature  
<223> >New ORF = left: 18251 right: 18748 frame: -3 size(aa): 166

<400> 227  
Pro Pro Glu His Gly Tyr Leu Asp Leu Val Asp Pro Asp Ala Gly Trp  
1 5 10 15  
Pro Ala Asp Arg Pro Glu Pro Gly Pro Gly Val Gly Asp Pro Gly Arg  
20 25 30  
Pro Gly Pro Gln Gly Gly Pro Gly Ala Gly Ala Asp Arg Ala Asp Ala  
35 40 45  
Asp Leu Gly Arg Gln Ala Arg His Pro Ala Gln Asp Thr Ala Gln Leu  
50 55 60  
Asp Gly Arg Pro Ser Gly Pro Ala Pro Gln Pro Leu Gly Asp Arg Arg  
65 70 75 80  
Arg Pro Pro Pro His Gly Gly Arg Ile Gly Leu Cys Gly Met Asn Gly  
85 90 95  
Pro Ser Asn Ser Cys Pro Pro Ser Thr Thr Ser Trp Val Ser Ser Arg  
100 105 110  
Pro Ala Ala Gly Ala Ser Arg Thr Ser Pro Arg Thr Gly Ser Ser Arg  
115 120 125  
Glu Arg Ser Cys Gly Arg Ala Ser Pro Gly Arg Cys Thr Gly Thr Gly  
130 135 140  
Ser Thr Thr Cys Gly Leu Gly Glu Ser Pro Ser Ser Ser Ser Thr Ala  
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145 150 155 160

Ala Trp Ala Arg Thr His  
165

<210> 228  
<211> 507  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> >New ORF = left: 18316 right: 19836 frame: 2 size(aa): 507

<400> 228

Asn Arg Cys Arg Cys Thr Ser Pro Gly Arg Pro Asp Arg Thr Ser Val  
1 5 10 15  
Pro Leu Ser Ser Gln Ser Gly Gly Met Ser Asp Ser Leu Gln Gln Leu  
20 25 30  
Ala Ser Lys Thr Pro Ser Trp Leu Trp Thr Gly Asp Ser Cys Leu Arg  
35 40 45  
Gly His Ser Phe Arg Ile Ala Leu Ser Tyr His Arg Gly Val Gly Ala  
50 55 60  
Gly Asp Asp Leu Pro Ala Val Ala Glu Pro Asp Leu Met Ala Gly His  
65 70 75 80  
Pro Val Val Gln Cys Leu Ala Arg Asp Ala Ser Pro Val Ala Pro Gly  
85 90 95  
Gln His Pro Leu Asp Arg His Pro His Arg Gly Arg Pro Gly Gly Gln  
100 105 110  
Asp Val Pro Asp His Pro His Arg Gly Leu Ala Pro Val Asp Pro Leu  
115 120 125  
Ala Asn Pro Arg Leu Asp Pro Pro Asp Pro Asp Thr His Val Pro Ala  
130 135 140  
Ala Ser His Pro Asp Gln Phe Ser Gly Arg Gln Pro Gly Gln Gly Ala  
145 150 155 160  
Val Glu Gly Gly Pro Gly Gln Val Glu Leu Cys Gly His Leu Gly Gln  
165 170 175  
Arg Arg Pro Pro Gly Pro Met Val Gly Gln Ala Ala Pro Gly Gln  
180 185 190  
Arg His His Arg Gly Pro Pro Gly Pro Met Ala Ser Glu Gln Phe Arg  
195 200 205  
Leu Asn Arg Gln Gly Met Leu Gly Trp Val His Ala Thr Leu His Arg  
210 215 220  
Ser Gly Ala Ala Val Asp Arg Arg Pro Gly Val Asp Ala Gln Gly Gln  
225 230 235 240  
Gln Ala Arg Ala Leu Arg Pro Pro His Arg Gly Arg Gln Asp Gln His  
245 250 255  
Leu His Arg Gly Gly Gln Ala Asp Arg Gly Ala Gly Gln Ala Gly Pro  
260 265 270

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Asp Pro Gly Ala Pro Pro Gly Ala Pro Pro Pro Asp Gln Arg Pro Ala  
 275 280 285  
 His Glu Val Gly His His Pro Arg Ala Glu Pro Gly Arg Val Arg Leu  
 290 295 300  
 Asp Asp Arg Gln Ala Asp Pro Leu Pro Ala Gly Pro Ala Asp Arg Arg  
 305 310 315 320  
 Arg Gly Pro Pro Leu Arg Gln Pro His Leu Gly Pro Glu Asp Arg Arg  
 325 330 335  
 Val Arg Arg Pro Ala Pro Gly Leu Asp Arg His Pro Gly Ala Ala Arg  
 340 345 350  
 Arg Pro Gly Pro Gly Arg Gly Val Pro Gly His Gly His Arg Ala Val  
 355 360 365  
 Arg Arg Arg Ala His Gly Ala Gln Pro Pro Val Pro Val Pro Pro Val  
 370 375 380  
 Pro Pro Ala Pro Gly Leu Arg Pro Gly Gln Arg Ala Gly Arg Val Leu  
 385 390 395 400  
 Arg Gly Pro Gln Leu Glu Asp Val Arg Arg Arg Pro Ala Asp Asp Arg  
 405 410 415  
 Val Leu His Leu Asp Arg Ala Cys Gly Gln Asp Leu Arg Gly Val Pro  
 420 425 430  
 Gly Arg Arg Cys Gly Gly Arg Gly Ala Arg Leu Glu Thr Val Arg His  
 435 440 445  
 Arg Ala Ala Arg Ala Asp Arg Pro Val Gln Glu Arg Arg Asp Asp Gly  
 450 455 460  
 Ala Arg Leu Gly His Ala Asp Leu Gly Gly Phe Arg Arg Pro Arg Leu  
 465 470 475 480  
 Arg Leu Arg Pro Ala Ala Pro Pro Asp Val Val Ala Val Ala Leu Pro  
 485 490 495  
 Pro Ala Gly Arg Pro Gly Pro Pro Val Leu Arg  
 500 505

<210> 229

<211> 158

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> >New ORF = left: 18484 right: 18957 frame: -2 size(aa): 158

<400> 229

His Thr Leu Pro Ile Gln Pro Glu Leu Leu Ala Arg His Arg Ser Arg  
 1 5 10 15  
 Trp Ser Pro Val Val Ser Leu Thr Trp Ser Arg Leu Ala Asp His Gly  
 20 25 30  
 Pro Gly Trp Trp Pro Ser Leu Thr Glu Met Ala Ala Glu Phe Asp Leu  
 35 40 45  
 Pro Arg Ala Thr Phe Tyr Arg Ala Leu Ala Arg Leu Ala Ser Ala Glu  
 50 55 60

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Leu Ile Gly Met Thr Ser Arg Arg Asn Met Gly Ile Trp Ile Trp Trp  
65 70 75 80  
Ile Gln Thr Arg Val Gly Gln Arg Ile Asp Arg Ser Gln Ala Pro Val  
85 90 95  
Trp Val Ile Arg Asp Val Leu Ala Pro Arg Ala Ala Pro Val Arg Val  
100 105 110  
Pro Ile Glu Arg Met Leu Thr Trp Gly Asp Arg Arg Gly Ile Pro Arg  
115 120 125  
Lys Thr Leu His Asn Trp Met Ala Gly His Gln Val Arg Leu Arg Asn  
130 135 140  
Arg Trp Glu Ile Val Ala Gly Pro His Pro Thr Val Val Gly  
145 150 155

<210> 230  
<211> 84  
<212> PRT  
<213> Cyanophage S-2L  
<220>  
<221> misc\_feature  
<223> >New ORF = left: 18545 right: 18796 frame: 3 size(aa): 84

<400> 230  
Trp Pro Ala Ile Gln Leu Cys Ser Val Leu Arg Gly Met Pro Arg Leu  
1 5 10 15  
Ser Pro Gln Val Ser Ile Arg Ser Ile Gly Thr Arg Thr Gly Ala Ala  
20 25 30  
Leu Gly Ala Arg Thr Ser Arg Ile Thr His Thr Gly Ala Trp Leu Arg  
35 40 45  
Ser Ile Arg Trp Pro Thr Arg Val Trp Ile His Gln Ile Gln Ile Pro  
50 55 60  
Met Phe Arg Arg Leu Val Ile Pro Ile Ser Ser Ala Asp Ala Ser Arg  
65 70 75 80  
Ala Arg Ala Arg

<210> 231  
<211> 83  
<212> PRT  
<213> Cyanophage S-2L  
<220>  
<221> misc\_feature  
<223> >New ORF = left: 18753 right: 19001 frame: 1 size(aa): 83

<400> 231  
Ser Ser Arg Ser Val Gln Arg Thr Pro Ala Gly Pro Gly Arg Gly Arg  
1 5 10 15  
Arg Trp Pro Trp Ala Gly Arg Thr Leu Arg Pro Ser Arg Ser Ala Thr  
20 25 30  
Ala Thr Thr Arg Ala His Gly Arg Pro Gly Gly Ser Arg Ser Ala Thr  
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35 40 45  
 Pro Pro Gly Thr Thr Gly Thr Asp Gly Glu Arg Ala Ile Gln Ala Glu  
 50 55 60

Ser Ala Arg Tyr Ala Arg Met Gly Ala Cys His Ser Thr Pro Ile Arg  
 65 70 75 80

Ser Ser Cys

<210> 232

<211> 55

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> >New ORF = left: 18770 right: 18934 frame: -3 size(aa): 55

<400> 232

Ile Ala Arg Ser Pro Ser Val Pro Val Val Pro Gly Gly Val Ala Asp  
 1 5 10 15

Leu Glu Pro Pro Gly Arg Pro Trp Ala Arg Val Val Ala Val Ala Asp  
 20 25 30

Arg Asp Gly Arg Arg Val Arg Pro Ala Gln Gly His Leu Leu Pro Arg  
 35 40 45

Pro Gly Pro Ala Gly Val Arg  
 50 55

<210> 233

<211> 461

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> >New ORF = left: 18938 right: 20320 frame: -3 size(aa): 461

<400> 233

Asp His Val Gly Ser His Gly Leu Gly His Leu Gln Ala Asn Pro Val  
 1 5 10 15

Leu Glu Asp Gly Phe Ala Leu Cys His Thr Thr Ile Leu Ala Pro Arg  
 20 25 30

Ile Thr Gly Gly Gln Asp Leu Val Tyr Pro Ala Trp Phe Val Pro Leu  
 35 40 45

Leu Leu Gly Gln Pro Ala Gln Val Leu Leu Gly Pro Gly Val Pro Asp  
 50 55 60

Asp Leu Pro Leu Gly His Gly Val Asp Arg Gly Gly Gly Gly Leu Leu  
 65 70 75 80

Glu Asp Gly Ile His Leu Pro Gly Tyr Asp Gly Leu His Arg Val Pro  
 85 90 95

Val Pro Ala Glu Arg Ala Asp Arg Arg Arg Ala Val Asp Leu Glu Ala  
 100 105 110

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Leu Arg Ala Asp Pro Glu Arg Trp Gly Arg Ala Val Leu Ala Gly Pro  
 115 120 125  
 Asp Leu Leu Ala Leu Gln Gly Pro Val Val Glu Val Val Arg Gln Ala  
 130 135 140  
 Gln Val Arg Val Leu Arg Val Ala His Ala Val Glu Asp Asp Ala Gly  
 145 150 155 160  
 Leu Thr Gly Glu Pro Glu Ala Pro Ala Asp Leu Leu Glu Val Glu Arg  
 165 170 175  
 Gln Arg Arg Arg Ala Glu Gln Gln Asp Ala Val Ala Val Gly Asp  
 180 185 190  
 Val Glu Thr Leu Arg Asp Gln His Asp Arg Asp Glu His His Arg Leu  
 195 200 205  
 Ala Ala Leu Glu Pro Gly Asp Pro Leu Glu Pro Leu Gly Val Gly Gln  
 210 215 220  
 Phe Arg Val Glu His Leu Gly Arg His Thr Asp Gly Pro Glu Arg Leu  
 225 230 235 240  
 Ala Gly Leu Gly Arg Met Leu Asp Arg Asp Ala Glu Arg Asp Arg Pro  
 245 250 255  
 Pro Ala Val Gly Glu Arg Leu Pro Val Ala Asp Pro Gly Glu His Gly  
 260 265 270  
 Pro Leu Ala Ala Arg Val Glu Val Arg Gly Arg Val Glu Gln Ala Val  
 275 280 285  
 Pro Gly Gln Ala Val Glu Arg His Glu Leu Gly Asp Gly Arg Pro Asp  
 290 295 300  
 Asp His Val Leu Glu His Leu Ala Gln Ala Pro Ala Val Glu Pro Leu  
 305 310 315 320  
 Arg Gly Gly Gly Pro Ala Gln Glu Arg Asp Val Val Leu Val Asp Leu  
 325 330 335  
 Pro Gly Pro Gly Gly Ala Asp Ala Val Val Gly Leu Val Asp Asp Gln  
 340 345 350  
 Gln Val Arg Pro Glu Val Gly Pro Leu Ala Asp Arg Arg Asp Val His  
 355 360 365  
 Ala Pro Val Arg Pro Gly Gly Asp Ala Arg Leu His Glu Pro Asp Val  
 370 375 380  
 Gly Leu Val Glu Glu Leu Pro Ala Val His Gln Asp Gln Gly Pro Leu  
 385 390 395 400  
 Ala Pro Leu His Gly Pro Pro Gly Arg Leu Asp Glu Gly Val Gly Leu  
 405 410 415  
 Ala Ala Pro Gly Gly Glu Asp Ala Glu His Ala Leu Val Ala Leu Glu  
 420 425 430  
 His Arg Arg Pro Gly Val Gly Gln Gln Leu Leu Leu Ile Gly Val Glu  
 435 440 445  
 Trp His Ala Pro Ile Leu Ala Tyr Leu Ala Asp Ser Ala  
 450 455 460

<210> 234  
 <211> 424

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&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; &gt;New ORF = left: 18962 right: 20233 frame: 3 size(aa): 424

&lt;400&gt; 234

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Asp Gly Cys Met Pro Leu Tyr Thr Asp Gln Glu Gln Leu Leu Thr Asp
1      5      10      15
Ala Arg Ala Ser Met Leu Lys Gly Asn Lys Arg Val Leu Cys Val Leu
20     25     30
Pro Thr Gly Gly Gly Lys Thr Asn Thr Phe Ile Glu Ala Ala Arg Arg
35     40     45
Thr Val Glu Arg Gly Lys Arg Ala Leu Ile Leu Val His Arg Arg Glu
50     55     60
Leu Leu His Gln Thr Asn Val Arg Leu Met Lys Ser Gly Ile Thr Pro
65     70     75     80
Gly Pro Asn Arg Gly Val Tyr Val Ser Thr Ile Gly Lys Arg Thr His
85     90     95
Phe Arg Pro Asp Leu Leu Ile Val Asp Glu Ala His His Cys Val Ser
100    105    110
Pro Thr Trp Ala Arg Lys Ile Asp Glu Tyr Asp Val Pro Leu Leu Gly
115    120    125
Trp Thr Ala Thr Pro Glu Arg Leu Asp Gly Arg Gly Leu Gly Glu Val
130    135    140
Phe Gln Asp Met Val Ile Gly Pro Ser Val Ala Glu Leu Met Ala Leu
145    150    155    160
Asn Arg Leu Ser Arg Tyr Arg Leu Phe His Pro Pro Pro Asp Phe Asp
165    170
Pro Gly Ser Glu Arg Ala Val Phe Ser Gly Val Arg Asn Trp Lys Thr
180    185    190
Phe Ala Asp Gly Arg Arg Thr Ile Ala Phe Cys Ile Ser Ile Glu His
195    200    205
Ala Ala Lys Thr Cys Glu Ala Phe Arg Ala Val Gly Val Ala Ala Glu
210    215    220
Val Leu Asp Ser Lys Leu Ser Asp Thr Glu Arg Leu Glu Arg Ile Ala
225    230    235    240
Arg Phe Lys Ser Gly Glu Thr Met Val Leu Val Ser Val Met Leu Ile
245    250    255
Ser Glu Gly Phe Asp Val Pro Asp Cys Asp Cys Val Leu Leu Leu Arg
260    265    270
Pro Thr Ser Ser Leu Ser Leu Tyr Leu Gln Gln Val Gly Arg Gly Leu
275    280    285
Arg Phe Ser Gly Glu Pro Cys Val Ile Leu Asp Cys Val Gly Asn Ser
290    295    300
Gln His Pro Asn Leu Gly Leu Pro Asp Asp Phe His His Trp Ser Leu

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305                      310                      315                      320  
 Glu Gly Lys Lys Val Arg Ala Gly Gln Asp Gly Thr Ala Pro Pro Leu  
                                  325                                   330                                   335  
 Arg Val Cys Pro Lys Cys Phe Gln Val His Arg Pro Ala Pro Val Cys  
                                  340                                   345                                   350  
 Pro Phe Cys Gly Tyr Arg His Pro Val Gln Ser Val Val Pro Arg Glu  
                                  355                                   360                                   365  
 Val Asp Ala Val Leu Gln Glu Ser Thr Ala Thr Pro Ile His Thr Val  
                                  370                                   375                                   380  
 Pro Lys Arg Glu Val Ile Arg Asn Ala Arg Thr Glu Glu Asp Leu Arg  
                                  385                                   390                                   395                                   400  
 Arg Leu Ala Gln Glu Gln Gly Tyr Lys Pro Gly Trp Val Asp Lys Ile  
                                  405                                   410                                   415  
 Leu Ala Ala Arg Asn Ala Arg Arg  
                                  420

<210> 235  
 <211> 269  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> >New ORF = left: 18991 right: 19797 frame: -2 size(aa): 269

<400> 235

Ser Asp Ser Asp Asp Val Gly Arg Ser Ser Arg Thr Gln Ser Gln Ser  
 1                                   5                                   10                                   15  
 Gly Thr Ser Lys Pro Ser Glu Ile Ser Met Thr Glu Thr Ser Thr Ile  
                                  20                                   25                                   30  
 Val Ser Pro Leu Leu Asn Arg Ala Ile Arg Ser Ser Arg Ser Val Ser  
                                  35                                   40                                   45  
 Asp Ser Phe Glu Ser Ser Thr Ser Ala Ala Thr Pro Thr Ala Arg Asn  
                                  50                                   55                                   60  
 Ala Ser Gln Val Leu Ala Ala Cys Ser Ile Glu Met Gln Asn Ala Ile  
 65                                   70                                   75                                   80  
 Val Arg Arg Pro Ser Ala Asn Val Phe Gln Leu Arg Thr Pro Glu Asn  
                                  85                                   90                                   95  
 Thr Ala Arg Ser Leu Pro Gly Ser Lys Ser Gly Gly Gly Trp Asn Arg  
                                  100                                   105                                   110  
 Arg Tyr Arg Asp Arg Arg Leu Ser Ala Met Ser Ser Ala Thr Asp Gly  
                                  115                                   120                                   125  
 Pro Met Thr Met Ser Trp Asn Thr Ser Pro Arg Pro Arg Pro Ser Ser  
                                  130                                   135                                   140  
 Arg Ser Gly Val Ala Val Gln Pro Arg Ser Gly Thr Ser Tyr Ser Ser  
 145                                   150                                   155                                   160  
 Ile Phe Arg Ala Gln Val Gly Leu Thr Gln Trp Trp Ala Ser Ser Thr  
                                  165                                   170                                   175



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Ile Ser Arg Ser Gly Arg Lys Trp Val Arg Leu Pro Ile Val Glu Thr  
 180 185 190  
 Tyr Thr Pro Arg Phe Gly Pro Gly Val Met Pro Asp Phe Met Ser Arg  
 195 200 205  
 Thr Leu Val Trp Trp Arg Ser Ser Arg Arg Cys Thr Arg Ile Arg Ala  
 210 215 220  
 Arg Leu Pro Arg Ser Thr Val Arg Leu Ala Ala Ser Met Lys Val Leu  
 225 230 235 240  
 Val Leu Pro Pro Pro Val Gly Arg Thr Gln Ser Thr Arg Leu Leu Pro  
 245 250 255  
 Leu Ser Ile Asp Ala Arg Ala Ser Val Asn Ser Cys Ser  
 260 265

<210> 236  
 <211> 152  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> >New ORF = left: 19269 right: 19724 frame: 1 size(aa): 152

<400> 236  
 Ser Ser Thr Arg Pro Thr Thr Ala Ser Ala Pro Pro Gly Pro Gly Arg  
 1 5 10 15  
 Ser Thr Ser Thr Thr Ser Arg Ser Trp Ala Gly Pro Pro Pro Arg Ser  
 20 25 30  
 Gly Ser Thr Ala Gly Ala Trp Ala Arg Cys Ser Arg Thr Trp Ser Ser  
 35 40 45  
 Gly Arg Pro Ser Pro Ser Ser Trp Arg Ser Thr Ala Cys Pro Gly Thr  
 50 55 60  
 Ala Cys Ser Thr Arg Pro Arg Thr Ser Thr Arg Ala Ala Ser Gly Pro  
 65 70 75 80  
 Cys Ser Pro Gly Ser Ala Thr Gly Arg Arg Ser Pro Thr Ala Gly Gly  
 85 90 95  
 Arg Ser Arg Ser Ala Ser Arg Ser Ser Met Arg Pro Arg Pro Ala Arg  
 100 105 110  
 Arg Ser Gly Pro Ser Val Trp Arg Pro Arg Cys Ser Thr Arg Asn Cys  
 115 120 125  
 Pro Thr Pro Ser Gly Ser Ser Gly Ser Pro Gly Ser Arg Ala Ala Arg  
 130 135 140  
 Arg Trp Cys Ser Ser Arg Ser Cys  
 145 150

<210> 237  
 <211> 81  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> >New ORF = left: 19443 right: 19685 frame: -1 size(aa): 81  
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&lt;400&gt; 237

Thr Gly Arg Ser Ala Arg Ala Ala Arg Cys Arg Thr Val Ser Ser Arg  
 1 5 10 15  
 Ala Pro Arg Pro Pro His Arg Arg Pro Gly Thr Pro Arg Arg Ser Trp  
 20 25 30  
 Pro His Ala Arg Ser Arg Cys Arg Thr Arg Ser Ser Ala Gly Arg Arg  
 35 40 45  
 Arg Thr Ser Ser Ser Cys Gly Pro Arg Arg Thr Arg Pro Ala Arg Cys  
 50 55 60  
 Pro Gly Arg Ser Pro Gly Ala Gly Gly Thr Gly Gly Thr Gly Thr Gly  
 65 70 75 80  
 Gly

&lt;210&gt; 238

&lt;211&gt; 157

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; &gt;New ORF = left: 19728 right: 20198 frame: 1 size(aa): 157

&lt;400&gt; 238

Ser Arg Arg Val Ser Thr Ser Pro Thr Ala Thr Ala Ser Cys Cys Ser  
 1 5 10 15  
 Ala Arg Arg Arg Arg Cys Arg Ser Thr Ser Ser Arg Ser Ala Gly Ala  
 20 25 30  
 Ser Gly Ser Pro Val Ser Pro Ala Ser Ser Ser Thr Ala Trp Ala Thr  
 35 40 45  
 Arg Ser Thr Arg Thr Trp Ala Cys Arg Thr Thr Ser Thr Thr Gly Pro  
 50 55 60  
 Trp Arg Ala Arg Arg Ser Gly Pro Ala Arg Thr Ala Arg Pro His Arg  
 65 70 75 80  
 Ser Gly Ser Ala Arg Ser Ala Ser Arg Ser Thr Ala Arg Arg Arg Ser  
 85 90 95  
 Ala Arg Ser Ala Gly Thr Gly Thr Arg Cys Ser Pro Ser Tyr Pro Gly  
 100 105 110  
 Arg Trp Met Pro Ser Ser Arg Ser Pro Pro Pro Pro Arg Ser Thr Pro  
 115 120 125  
 Cys Pro Ser Gly Arg Ser Ser Gly Thr Pro Gly Pro Arg Arg Thr Cys  
 130 135 140  
 Ala Gly Trp Pro Arg Ser Arg Gly Thr Asn Gln Ala Gly  
 145 150 155

&lt;210&gt; 239

&lt;211&gt; 144

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

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<220>  
 <221> misc\_feature  
 <223> >New ORF = left: 19801 right: 20232 frame: -2 size(aa): 144

<400> 239

Arg Arg Ala Leu Arg Ala Ala Arg Ile Leu Ser Thr Gln Pro Gly Leu  
 1 5 10 15  
 Tyr Pro Cys Ser Trp Ala Ser Arg Arg Arg Ser Ser Ser Val Arg Ala  
 20 25 30  
 Phe Arg Met Thr Ser Arg Leu Gly Thr Val Trp Ile Gly Val Ala Val  
 35 40 45  
 Asp Ser Trp Arg Thr Ala Ser Thr Ser Arg Gly Thr Thr Asp Cys Thr  
 50 55 60  
 Gly Cys Arg Tyr Pro Gln Asn Gly Gln Thr Gly Ala Gly Arg Trp Thr  
 65 70 75 80  
 Trp Lys His Phe Gly Gln Thr Arg Ser Gly Gly Ala Val Pro Ser Trp  
 85 90 95  
 Pro Ala Arg Thr Phe Leu Pro Ser Arg Asp Gln Trp Trp Lys Ser Ser  
 100 105 110  
 Gly Arg Pro Arg Phe Gly Cys Cys Glu Leu Pro Thr Gln Ser Arg Met  
 115 120 125  
 Thr Gln Gly Ser Pro Glu Asn Arg Arg Pro Arg Pro Thr Cys Trp Arg  
 130 135 140

<210> 240  
 <211> 127  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> >New ORF = left: 19840 right: 20220 frame: 2 size(aa): 127

<400> 240

Ala Leu Arg His Pro Arg Leu Arg Gly Gln Leu Ala Ala Pro Glu Pro  
 1 5 10 15  
 Gly Pro Ala Gly Arg Leu Pro Pro Leu Val Pro Gly Gly Gln Glu Gly  
 20 25 30  
 Pro Gly Arg Pro Gly Arg His Gly Pro Thr Ala Pro Gly Leu Pro Glu  
 35 40 45  
 Val Leu Pro Gly Pro Pro Pro Gly Ala Gly Leu Pro Val Leu Arg Val  
 50 55 60  
 Pro Ala Pro Gly Ala Val Arg Arg Thr Pro Gly Gly Gly Cys Arg Pro  
 65 70 75 80  
 Pro Gly Val His Arg His Pro Asp Pro His Arg Ala Gln Ala Gly Gly  
 85 90 95  
 His Pro Glu Arg Pro Asp Arg Gly Gly Pro Ala Pro Ala Gly Pro Gly  
 100 105 110

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Ala Gly Val Gln Thr Arg Leu Gly Arg Gln Asp Pro Gly Arg Pro  
 115 120 125

<210> 241  
 <211> 92  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> >New ORF = left: 19851 right: 20126 frame: -1 size(aa): 92

<400> 241

Pro Pro Ala Trp Ala Arg Cys Gly Ser Gly Trp Arg Trp Thr Pro Gly  
 1 5 10 15  
 Gly Arg His Pro Pro Pro Gly Val Arg Arg Thr Ala Pro Gly Ala Gly  
 20 25 30  
 Thr Arg Arg Thr Gly Arg Pro Ala Pro Gly Gly Gly Pro Gly Ser Thr  
 35 40 45  
 Ser Gly Arg Pro Gly Ala Val Gly Pro Cys Arg Pro Gly Arg Pro Gly  
 50 55 60  
 Pro Ser Cys Pro Pro Gly Thr Ser Gly Gly Ser Arg Pro Ala Gly Pro  
 65 70 75 80  
 Gly Ser Gly Ala Ala Ser Cys Pro Arg Ser Arg Gly  
 85 90

<210> 242  
 <211> 81  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> >New ORF = left: 20130 right: 20372 frame: -1 size(aa): 81

<400> 242

Ser Ser Pro Arg Ser Glu Asp Arg Gly Gly Ser His Cys Gly Ser Gly  
 1 5 10 15  
 Ile Gly Pro Arg Gly Glu Pro Trp Pro Gly Pro Pro Pro Gly Glu Ser  
 20 25 30  
 Ser Phe Gly Gly Trp Phe Arg Ala Val Pro Tyr Asn His Thr Ser Ala  
 35 40 45  
 Ala His Tyr Gly Arg Pro Gly Ser Cys Leu Pro Ser Leu Val Cys Thr  
 50 55 60  
 Pro Ala Pro Gly Pro Ala Gly Ala Gly Pro Pro Arg Ser Gly Arg Ser  
 65 70 75 80  
 Gly

<210> 243  
 <211> 68  
 <212> PRT  
 <213> Cyanophage S-2L

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<220>  
 <221> misc\_feature  
 <223> >New ORF = left: 20202 right: 20405 frame: 1 size(aa): 68

<400> 243

Thr Arg Ser Trp Pro Pro Val Met Arg Gly Ala Ser Met Val Val Trp  
 1 5 10 15  
 His Ser Ala Lys Pro Ser Ser Lys Thr Gly Phe Ala Trp Arg Trp Pro  
 20 25 30  
 Arg Pro Trp Leu Pro Thr Trp Ser Tyr Ser Gly Thr Thr Met Gly Ala  
 35 40 45  
 Ser Pro Ile Leu Gly Pro Gly Ala Gly Ser Pro Ser Ala Trp Gly Arg  
 50 55 60  
 Ala Pro Pro Thr  
 65

<210> 244  
 <211> 201  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> >New ORF = left: 20224 right: 20826 frame: 2 size(aa): 201

<400> 244

Cys Ala Ala Leu Val Trp Leu Tyr Gly Thr Ala Arg Asn His Pro Pro  
 1 5 10 15  
 Lys Leu Asp Ser Pro Gly Gly Gly Pro Gly His Gly Ser Pro Arg Gly  
 20 25 30  
 Pro Ile Pro Glu Pro Gln Trp Glu Pro Pro Arg Ser Ser Asp Arg Gly  
 35 40 45  
 Leu Asp His Leu Arg Pro Gly Gly Gly Leu Pro Arg Pro Asp Arg Met  
 50 55 60  
 Ala Arg Pro Pro Asp Arg Arg Pro Arg Pro Val Arg Arg Ser Arg Gly  
 65 70 75 80  
 Gln Ala Ala Arg Gly Glu Gly Pro Pro Arg Ala Ala Asp Leu Asp Arg  
 85 90 95  
 Gln His Gln Arg Gly Arg Arg Pro Cys Arg Tyr Arg His Phe Thr Arg  
 100 105 110  
 Gly Gly His Arg Ser Pro Val Gln Ser Pro Leu Ser Leu Arg Gly Thr  
 115 120 125  
 Pro Cys Pro Pro Gln Pro Gln Arg Pro Pro Pro Ala Arg Pro Ala Pro  
 130 135 140  
 Gly Ser Pro Ala Ser Ser Gln Ser Cys Ser Thr Cys Pro Arg Pro Ser  
 145 150 155 160  
 Ser Ser Ala Ser Ile Gly Arg Arg Thr Arg Thr Gly Gly Pro Val Arg  
 165 170 175  
 Leu Arg Ser Ser Thr Cys Ser Arg Pro Pro Ser Thr Pro Ala Arg Ser  
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180 185 190  
 Ala Asp Arg Thr Thr Gly Pro Val Gln  
 195 200  
 <210> 245  
 <211> 118  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> >New ORF = left: 20236 right: 20589 frame: -2 size(aa): 118

<400> 245  
 Gly Gly Leu Asp Arg Arg Ala Met Ala Ser Ser Gly Glu Val Thr Val  
 1 5 10 15  
 Pro Ala Arg Pro Pro Ala Ala Leu Met Leu Ser Ile Gln Val Cys Cys  
 20 25 30  
 Ser Gly Arg Ala Phe Ser Pro Gly Ser Leu Thr Ser Arg Pro Thr Asn  
 35 40 45  
 Trp Ala Arg Ala Pro Ile Trp Arg Thr Arg His Pro Ile Arg Ser Gly  
 50 55 60  
 Glu Pro Ser Pro Arg Pro Lys Val Ile Gln Pro Pro Val Arg Gly Ser  
 65 70 75 80  
 Gly Arg Leu Pro Leu Trp Phe Arg Asn Arg Thr Thr Trp Gly Ala Met  
 85 90 95  
 Ala Trp Ala Thr Ser Arg Arg Ile Gln Phe Trp Arg Met Val Ser Arg  
 100 105 110  
 Cys Ala Ile Gln Pro Tyr  
 115

<210> 246  
 <211> 172  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> >New ORF = left: 20237 right: 20752 frame: 3 size(aa): 172

<400> 246  
 Tyr Gly Cys Met Ala Gln Arg Glu Thr Ile Leu Gln Asn Trp Ile Arg  
 1 5 10 15  
 Leu Glu Val Ala Gln Ala Met Ala Pro His Val Val Leu Phe Arg Asn  
 20 25 30  
 His Asn Gly Ser Leu Pro Asp Pro Arg Thr Gly Gly Trp Ile Thr Phe  
 35 40 45  
 Gly Leu Gly Glu Gly Ser Pro Asp Leu Ile Gly Trp Arg Val Leu Gln  
 50 55 60  
 Ile Gly Ala Leu Ala Gln Phe Val Gly Leu Glu Val Lys Leu Pro Gly  
 65 70 75 80

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Glu Lys Ala Arg Pro Glu Gln Gln Thr Trp Ile Asp Asn Ile Asn Ala  
85 90  
Ala Gly Gly Leu Ala Gly Thr Val Thr Ser Pro Glu Glu Ala Ile Ala  
100 105 110  
Leu Leu Ser Ser Pro Pro Tyr Pro Phe Glu Val His His Ala Pro Arg  
115 120 125  
Asn Arg Arg Gly Pro Arg Pro Gln Asp Pro Leu Pro Glu Ala Arg Pro  
130 135 140  
Gln Ala Ser Pro Ala Leu His Ala Arg Gly Pro Arg Arg Ala Pro Arg  
145 150 155 160  
Ser Gly Glu Gly Pro Gly Pro Ala Asp Pro Phe Gly  
165 170

<210> 247

<211> 76

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> >New ORF = left: 20324 right: 20551 frame: -3 size(aa): 76

<400> 247

Ser Asp Gly Thr Gly Lys Ala Ala Gly Arg Val Asp Val Val Asp Pro  
1 5 10 15  
Gly Leu Leu Leu Gly Ala Gly Leu Leu Pro Gly Gln Leu Asp Leu Glu  
20 25 30  
Thr Asp Glu Leu Gly Glu Gly Ala Asp Leu Glu Asp Ala Pro Ser Asp  
35 40 45  
Gln Val Gly Gly Ala Leu Pro Gln Ala Glu Gly Asp Pro Ala Pro Gly  
50 55 60  
Pro Arg Ile Gly Glu Ala Pro Ile Val Val Pro Glu  
65 70 75

<210> 248

<211> 131

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> >New ORF = left: 20409 right: 20801 frame: 1 size(aa): 131

<400> 248

Ser Asp Gly Ala Ser Ser Arg Ser Ala Pro Ser Pro Ser Ser Ser Val  
1 5 10 15  
Ser Arg Ser Ser Cys Pro Gly Arg Arg Pro Ala Pro Ser Ser Arg Pro  
20 25 30  
Gly Ser Thr Thr Ser Thr Arg Pro Ala Ala Leu Pro Val Pro Ser Leu  
35 40 45  
His Pro Arg Arg Pro Ser Leu Ser Cys Pro Val Pro Pro Ile Pro Ser  
50 55 60

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Arg Tyr Thr Met Pro Pro Ala Thr Ala Glu Ala Pro Ala Arg Lys Thr  
65 70 75 80  
Arg Ser Arg Lys Pro Gly Leu Lys Pro Val Leu Leu Tyr Met Pro Glu  
85 90 95  
Ala Leu Val Glu Arg Leu Asp Arg Ala Lys Asp Gln Asp Arg Arg Thr  
100 105 110  
Arg Ser Ala Glu Ile Phe His Leu Leu Glu Ala Ala Leu Asp Ala Arg  
115 120 125  
Ser Ile Gly  
130

<210> 249  
<211> 116  
<212> PRT  
<213> Cyanophage S-2L  
<220>  
<221> misc\_feature  
<223> >New ORF = left: 20550 right: 20897 frame: -1 size(aa): 116

<400> 249  
Gly Tyr Asp Arg Cys Gly Arg Arg Ser Cys Ser Val Glu Ala Pro Arg  
1 5 10 15  
Glu Gln Ser Trp Gly Ala Ser His Cys Thr Gly Pro Val Val Arg Ser  
20 25 30  
Ala Asp Arg Ala Gly Val Glu Gly Gly Leu Glu Gln Val Glu Asp Leu  
35 40 45  
Ser Arg Thr Gly Pro Pro Val Leu Val Leu Arg Pro Ile Glu Ala Leu  
50 55 60  
Asp Glu Gly Leu Gly His Val Glu Gln Asp Trp Leu Glu Ala Gly Leu  
65 70 75 80  
Pro Gly Ala Gly Leu Ala Gly Gly Gly Leu Cys Gly Cys Gly Gly His  
85 90 95  
Gly Val Pro Arg Arg Asp Arg Gly Asp Trp Thr Gly Glu Arg Trp Pro  
100 105 110  
Pro Arg Val Lys  
115

<210> 250  
<211> 63  
<212> PRT  
<213> Cyanophage S-2L  
<220>  
<221> misc\_feature  
<223> >New ORF = left: 20671 right: 20859 frame: -2 size(aa): 63

<400> 250  
Gly Pro Pro Gly Ala Ile Leu Gly Gly Leu Ser Leu Tyr Gly Ala Arg  
1 5 10 15  
Gly Ser Ile Ser Arg Ser Ser Gly Arg Arg Gly Arg Pro Arg Ala Gly  
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      20              25              30
Gly Arg Ser Gln Pro Asn Gly Ser Ala Gly Pro Gly Pro Ser Pro Asp
      35              40              45
Arg Gly Ala Arg Arg Gly Pro Arg Ala Cys Arg Ala Gly Leu Ala
      50              55              60
<210> 251
<211> 76
<212> PRT
<213> Cyanophage S-2L
<220>
<221> misc_feature
<223> >New ORF = left: 20687 right: 20914 frame: -3 size(aa): 76

<400> 251
Cys Leu Arg Trp Ser Lys Gly Met Thr Ala Val Ala Gly Gly His Ala
 1              5              10              15
Val Leu Arg Pro Pro Gly Ser Asn Pro Gly Gly Pro Leu Thr Val Arg
      20              25              30
Gly Pro Trp Phe Asp Gln Pro Ile Glu Arg Ala Ser Arg Ala Ala Ser
      35              40              45
Ser Arg Trp Lys Ile Ser Ala Glu Arg Val Arg Arg Ser Trp Ser Phe
      50              55              60
Ala Arg Ser Arg Arg Ser Thr Arg Ala Ser Gly Met
 65              70              75
<210> 252
<211> 54
<212> PRT
<213> Cyanophage S-2L
<220>
<221> misc_feature
<223> >New ORF = left: 20756 right: 20917 frame: 3 size(aa): 54

<400> 252
Asp Leu Pro Pro Ala Arg Gly Arg Pro Arg Arg Pro Leu Asp Arg Leu
 1              5              10              15
Ile Glu Pro Arg Ala Pro Tyr Ser Glu Arg Pro Pro Arg Ile Ala Pro
      20              25              30
Gly Gly Pro Gln His Cys Met Thr Ala Cys His Ser Gly His Thr Leu
      35              40              45
Thr Pro Pro Gln Thr Leu
      50
<210> 253
<211> 274
<212> PRT
<213> Cyanophage S-2L
<220>
<221> misc_feature
<223> >New ORF = left: 20830 right: 21651 frame: 2 size(aa): 274

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&lt;400&gt; 253

Glu Ala Pro Gln Asp Cys Ser Arg Gly Ala Ser Thr Leu His Asp Arg  
 1 5 10 15  
 Leu Pro Gln Arg Ser Tyr Pro Tyr Ser Thr Ser Asp Thr Ile Ala Asp  
 20 25 30  
 Val Asn Pro Arg Thr Ser Leu Arg Pro Gly Pro Asp Pro Pro Pro  
 35 40 45  
 Val Ala Pro Pro Glu Gly His Arg His Asp Pro Val Pro Gly Asp Leu  
 50 55 60  
 Ala Gln Ala Arg Gly Gln Gly Lys Ser Leu Asp Asp Ala Pro Asp Arg  
 65 70 75 80  
 Gly His Gly Pro Gly Arg Arg His Pro Gly Ile Gln Gln Leu His Arg  
 85 90 95  
 Arg Arg Arg Arg Arg Arg Leu Arg Arg Asp His Gln Cys Gln Arg  
 100 105 110  
 His Leu Arg Arg Val Gly Arg Arg Arg Pro Gly Leu Ala Gly Arg Arg  
 115 120 125  
 Leu Gly Gly Leu Arg Pro Ala Ala Ala Glu Leu Pro Ala Ala His Arg  
 130 135 140  
 Gly Gln Val Asp Pro Pro Leu Leu Gly Val Pro Gln Pro Cys Gly Arg  
 145 150 155 160  
 Pro Gly Leu Asp Arg Ala Pro Gly Pro Pro Asp Arg Pro Gly Arg Leu  
 165 170 175  
 Arg His Asp Glu Pro Glu Pro Leu Pro Gly Asp Ala Pro Gly Arg Leu  
 180 185 190  
 Pro Pro Pro Ala His Arg Gly Gly Gly Pro Asp Leu Gln Arg Asp Arg  
 195 200 205  
 Gly Ala Leu Arg Pro Arg Ala Asp Ala Ala Gly Pro Ala Pro Gly Ala  
 210 215 220  
 Asp Arg Pro Ala Gly Cys Arg Pro Gly Gly Pro Gly Arg Cys Pro Gln  
 225 230 235 240  
 Phe Asp Gly Arg His Pro Gly Arg Pro Gly Pro Asp Pro Thr Pro Ser  
 245 250 255  
 Arg Gly Arg Glu Arg His Leu Arg Arg Val Pro Gln His Pro Leu Gly  
 260 265 270  
 Pro Gly

&lt;210&gt; 254

&lt;211&gt; 56

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; &gt;New ORF = left: 20874 right: 21041 frame: 1 size(aa): 56

&lt;400&gt; 254

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Pro Pro Ala Thr Ala Val Ile Pro Leu Leu His Leu Arg His Tyr Ser  
 1 5 10 15  
 Arg Cys Gln Pro Pro His Gln Pro Ser Thr Gly Thr Arg Ser Ser Ser  
 20 25 30  
 Thr Cys Arg Ser Ser Gly Arg Thr Ser Pro Arg Pro Gly Thr Gly Arg  
 35 40 45  
 Ser Gly Pro Gly Glu Arg Thr Arg  
 50 55

<210> 255  
 <211> 63  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> >New ORF = left: 20901 right: 21089 frame: -1 size(aa): 63

<400> 255

Arg Arg Pro Gly Pro Trp Pro Arg Ser Gly Ala Ser Ser Arg Leu Leu  
 1 5 10 15  
 Pro Cys Pro Leu Ala Trp Ala Arg Ser Pro Gly Thr Gly Ser Trp Arg  
 20 25 30  
 Cys Pro Ser Gly Gly Ala Thr Gly Gly Gly Gly Ser Gly Pro Gly Arg  
 35 40 45  
 Arg Leu Val Arg Gly Leu Thr Ser Ala Ile Val Ser Glu Val Glu  
 50 55 60

<210> 256  
 <211> 66  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> >New ORF = left: 20911 right: 21108 frame: -2 size(aa): 66

<400> 256

Leu Leu Asn Pro Trp Val Thr Ala Ser Trp Thr Val Ala Pro Val Arg  
 1 5 10 15  
 Gly Val Val Gln Ala Phe Thr Leu Ser Ser Arg Leu Gly Gln Ile Ala  
 20 25 30  
 Arg Tyr Arg Val Val Ala Met Ser Phe Arg Arg Ser Asp Arg Trp Arg  
 35 40 45  
 Arg Ile Trp Ser Arg Ser Lys Ala Gly Ala Gly Val Asp Ile Cys Tyr  
 50 55 60

Ser Val  
 65

<210> 257  
 <211> 738  
 <212> PRT  
 <213> Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; &gt;New ORF = left: 20921 right: 23134 frame: 3 size(aa): 738

&lt;400&gt; 257

Gln Met Ser Thr Pro Ala Pro Ala Phe Asp Arg Asp Gln Ile Leu Leu  
 1 5 10 15  
 His Leu Ser Leu Leu Arg Lys Asp Ile Ala Thr Thr Arg Tyr Arg Ala  
 20 25 30  
 Ile Trp Pro Arg Arg Glu Asp Lys Val Lys Ala Trp Thr Thr Pro Leu  
 35 40 45  
 Thr Gly Ala Thr Val Gln Asp Ala Val Thr Gln Gly Phe Asn Ser Tyr  
 50 55 60  
 Ile Val Val Gly Asp Gly Gly Asp Ser Asp Ala Glu Ile Thr Ser Val  
 65 70 75 80  
 Asn Ala Ile Phe Gly Glu Trp Asp Asp Gly Asp Leu Ala Trp Gln Val  
 85 90 95  
 Gly Ala Trp Glu Ala Cys Gly Leu Pro Arg Pro Ser Phe Gln Leu Arg  
 100 105 110  
 Thr Gly Gly Lys Ser Ile His His Tyr Trp Val Phe His Ser Pro Val  
 115 120 125  
 Asp Val Pro Ala Trp Thr Glu Leu Gln Ala Arg Leu Ile Ala Leu Ala  
 130 135 140  
 Gly Phe Asp Thr Thr Asn Arg Asn Pro Ser Arg Val Met Arg Leu Ala  
 145 150 155 160  
 Gly Cys Pro His Gln Arg Thr Gly Glu Val Ala Gln Ile Phe Asn Ala  
 165 170 175  
 Thr Gly Glu Leu Tyr Asp Pro Gly Gln Met Leu Gln Val Leu Pro Pro  
 180 185 190  
 Val Pro Ile Asp Pro Pro Ala Ala Ala Pro Val Ala Pro Gly Gly Ala  
 195 200 205  
 Pro Ser Ser Met Asp Asp Ile Arg Ala Ala Leu Ala Gln Ile Pro Pro  
 210 215 220  
 Arg Pro Gly Ala Gly Ser Gly Thr Tyr Ala Glu Tyr Arg Asn Ile Leu  
 225 230 235 240  
 Trp Gly Leu Val Lys Ala Val Glu Glu Ala Gly Gly Thr Arg Asp Gln  
 245 250 255  
 Ala Val Ala Met Met Gln Ala His Ser Pro Glu Gly Trp Asp Cys Ala  
 260 265 270  
 Gln Val Ala Arg Ser Gly Gly Lys Lys Ile Ser Thr Gly Thr Phe Trp  
 275 280 285  
 Trp His Ala Met Ser Tyr Gly Trp Ala Pro Pro Lys Lys Ala Pro Glu  
 290 295 300  
 Pro Pro Pro Gln Ala Arg Gln Val Pro Ala Val Ala Ala Val Leu Gln  
 305 310 315 320

Ala Ala Glu Ala Ala Pro Gly Thr Gly Thr Glu His Gly Pro Trp Ala  
 325 330 335  
 Pro Leu Pro Pro Gly Trp Gln Gly Thr Asn Lys Glu Gly Leu Pro Arg  
 340 345 350  
 Ala Ser Gln Ile Thr Thr Tyr Glu Leu Ala Leu Leu Met Gln Val Ser  
 355 360 365  
 Leu Arg Gly Val Leu Trp His Asn Glu Met Ser Gly Glu Val Met His  
 370 375 380  
 Gly Lys Thr Ala Leu Ser Pro Ile Glu Leu Gln Ile Ala Tyr Ser Arg  
 385 390 395 400  
 Leu Glu Gly Leu Gly Tyr Lys Val Thr Lys Glu Asn Ala Lys Thr Ala  
 405 410 415  
 Ile Leu Gln Ala Ser Ile Ala Asp Leu Arg His Pro Val Arg Glu Tyr  
 420 425 430  
 Leu Asn Thr Cys Thr Thr Pro Leu Pro Asp Glu Val Trp Ala Asp Ile  
 435 440 445  
 Ala Asn Ala Leu Leu Gly Pro Gly His Ser Ala Phe Asp Ser Ser Ala  
 450 455 460  
 Ile Arg Lys Trp Leu Ile Phe Ala Val Ala Arg Val Phe Gln Pro Gly  
 465 470 475 480  
 Cys Pro Phe Gly Phe Met Leu Val Leu Ala Gly Ala Gln Gln Met His  
 485 490 495  
 Lys Thr Arg Phe Phe Asn Thr Leu Ala Ser Asp Glu Trp Phe Leu Gly  
 500 505 510  
 Gly Phe Gln Arg Gly Arg Ser Asp Thr Asp Asp Leu Ile Ala Leu His  
 515 520 525  
 Arg Ser Trp Ile Thr Glu Trp Gly Glu Leu Asp Gly Gly Leu Ser Lys  
 530 535 540  
 His Asp Ser Ala Glu Leu Lys Ala Met Ile Asp Arg Lys Val Asp Val  
 545 550 555 560  
 Leu Arg Arg Pro Tyr Ala Ala Thr His Glu Ser Cys Pro Arg Ser Phe  
 565 570 575  
 Val Leu Cys Gly Thr Thr Asn Arg Arg Asp Gly Leu Phe Thr Asp Pro  
 580 585 590  
 Thr Gly Asn Arg Arg Tyr Val Val Val Pro Val Asn Gln Arg Ile Asp  
 595 600 605  
 Ser Glu Arg Leu Glu Gln Met Arg Asp Gln Ile Trp Ala Thr Ala Leu  
 610 615 620  
 Arg Glu Tyr Arg Ser Gly Lys Leu Trp Tyr Leu Asp Glu Glu Glu Leu  
 625 630 635 640  
 Glu Ile Asn Ala Lys Arg Asn Lys Gly Leu Glu Val Glu Asp Ala Trp  
 645 650 655  
 Val Gly Thr Ile Gln Met His Leu Asn Ser Ser Ile Asp Leu Glu Arg  
 660 665 670  
 Leu Thr Asp Gly Arg Tyr Gly Ile Asn Ile Glu Ser Val Tyr Leu Lys  
 675 680 685

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Ile Glu Pro Glu Val Gly Arg Arg Gly Pro Gly Phe Gly Lys Arg Ile  
690 695 700  
Arg Asp Thr Met Leu Ser Leu Gly Trp Glu Pro Val Arg Leu Arg Leu  
705 710 715  
Ala Ser Asp Pro Ser Gly Asn Pro Val Arg Arg Trp Ala Pro Val Gln  
725 730 735  
Gly Gly

<210> 258  
<211> 375  
<212> PRT  
<213> Cyanophage S-2L  
<220>  
<221> misc\_feature  
<223> >New ORF = left: 20930 right: 22054 frame: -3 size(aa): 375

<400> 258  
His Leu Val Val Pro Glu His Pro Pro Gln Gly Asp Leu His Gln Gln  
1 5 10 15  
Gly Gln Phe Val Gly Gly Asp Leu Arg Gly Pro Gly Gln Ala Leu Leu  
20 25 30  
Val Arg Ala Leu Pro Ala Arg Gly Gln Arg Arg Pro Gly Ala Val Leu  
35 40 45  
Gly Ala Gly Ser Arg Gly Gly Leu Cys Gly Leu Glu His Gly Gly His  
50 55 60  
Gly Arg His Leu Ala Gly Leu Gly Arg Arg Leu Arg Gly Leu Leu Arg  
65 70 75 80  
Arg Cys Pro Ala Val Gly His Arg Met Pro Pro Glu Arg Pro Gly Ala  
85 90 95  
Asp Leu Leu Ala Pro Gly Ala Gly His Leu Gly Ala Ile Pro Ala Leu  
100 105 110  
Gly Ala Val Arg Leu His His Gly His Gly Leu Val Pro Gly Ala Ala  
115 120 125  
Gly Leu Leu Asp Gly Leu Asn Gln Ala Pro Glu Asp Val Ala Val Leu  
130 135 140  
Gly Val Gly Ala Ala Pro Cys Pro Gly Thr Gly Trp Asp Leu Gly Gln  
145 150 155 160  
Gly Gly Pro Asp Val Val His Arg Thr Gly Gly Thr Ser Arg Gly His  
165 170 175  
Arg Gly Gly Ser Arg Arg Val Asp Arg His Arg Gly Gln Asp Leu Gln  
180 185 190  
His Leu Pro Gly Val Val Glu Leu Pro Gly Arg Val Glu Asp Leu Gly  
195 200 205  
His Leu Pro Gly Ala Leu Val Gly Ala Ala Gly Gln Ala His His Pro  
210 215 220  
Gly Gly Val Pro Val Arg Arg Val Glu Ala Gly Gln Gly Asp Gln Ala  
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225                      230                      235                      240  
 Gly Leu Glu Leu Gly Pro Gly Arg Asp Val His Arg Ala Val Glu His  
                                  245                      250                      255  
 Pro Val Val Val Asp Arg Leu Ala Pro Gly Ala Gln Leu Glu Ala Arg  
                                  260                      265                      270  
 Pro Arg Gln Ala Ala Gly Leu Pro Gly Ala Asp Leu Pro Gly Gln Val  
                                  275                      280                      285  
 Ala Val Val Pro Leu Ala Glu Asp Gly Val Asp Thr Gly Asp Leu Gly  
                                  290                      295                      300  
 Val Gly Val Ala Ala Val Ala Tyr Asp Asp Val Ala Val Glu Ser Leu  
                                  305                      310                      315                      320  
 Gly Asp Gly Val Leu Asp Arg Gly Pro Gly Gln Gly Arg Arg Pro Gly  
                                  325                      330                      335  
 Phe Tyr Leu Val Leu Ser Pro Gly Pro Asp Arg Pro Val Pro Gly Arg  
                                  340                      345                      350  
 Gly Asp Val Leu Pro Glu Glu Arg Gln Val Glu Glu Asp Leu Val Pro  
                                  355                      360                      365  
 Val Glu Gly Trp Cys Gly Gly  
                                  370                      375

&lt;210&gt; 259

&lt;211&gt; 56

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; &gt;New ORF = left: 21112 right: 21279 frame: -2 size(aa): 56

&lt;400&gt; 259

Trp Trp Ile Asp Leu Pro Pro Val Arg Ser Trp Lys Leu Gly Arg Gly  
 1                      5                      10                      15  
 Arg Pro Gln Ala Ser Gln Ala Pro Thr Cys Gln Ala Arg Ser Pro Ser  
                                  20                      25                      30  
 Ser His Ser Pro Lys Met Ala Leu Thr Leu Val Ile Ser Ala Ser Glu  
                                  35                      40                      45  
 Ser Pro Pro Ser Pro Thr Thr Met  
                                  50                      55

&lt;210&gt; 260

&lt;211&gt; 72

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; &gt;New ORF = left: 21123 right: 21338 frame: 1 size(aa): 72

&lt;400&gt; 260

Ala Thr Ala Ala Thr Pro Thr Pro Arg Ser Pro Val Ser Thr Pro Ser  
 1                      5                      10                      15

Ser Ala Ser Gly Thr Thr Ala Thr Trp Pro Gly Arg Ser Ala Pro Gly  
 20 25 30  
 Arg Pro Ala Ala Cys Arg Gly Arg Ala Ser Ser Cys Ala Pro Gly Ala  
 35 40 45  
 Ser Arg Ser Thr Thr Thr Gly Cys Ser Thr Ala Leu Trp Thr Ser Arg  
 50 55 60  
 Pro Gly Pro Ser Ser Arg Pro Ala  
 65 70

<210> 261  
 <211> 93  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> >New ORF = left: 21162 right: 21440 frame: -1 size(aa): 93

<400> 261  
 Arg Ser Gly Pro Pro Pro Arg Cys Ala Gly Gly Gly Ser Arg Pro Gly  
 1 5 10 15  
 Ala Ser Pro Gly Arg Gly Ser Gly Ser Ser Cys Arg Ser Arg Pro Gly  
 20 25 30  
 Arg Ser Gly Gly Pro Gly Ala Arg Ser Arg Pro Gly Arg Pro Gln Gly  
 35 40 45  
 Cys Gly Thr Pro Ser Ser Gly Gly Ser Thr Cys Pro Arg Cys Ala Ala  
 50 55 60  
 Gly Ser Ser Ala Ala Ala Gly Arg Arg Pro Pro Arg Arg Arg Pro Ala  
 65 70 75 80  
 Arg Pro Gly Arg Arg Arg Pro Thr Arg Arg Arg Trp Arg  
 85 90

<210> 262  
 <211> 59  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> >New ORF = left: 21283 right: 21459 frame: -2 size(aa): 59

<400> 262  
 Ser Ser Pro Val Ala Leu Lys Ile Trp Ala Thr Ser Pro Val Arg Trp  
 1 5 10 15  
 Trp Gly Gln Pro Ala Arg Arg Ile Thr Arg Glu Gly Phe Arg Phe Val  
 20 25 30  
 Val Ser Lys Pro Ala Arg Ala Ile Arg Arg Ala Trp Ser Ser Val Gln  
 35 40 45  
 Ala Gly Thr Ser Thr Gly Leu Trp Asn Thr Gln  
 50 55

<210> 263  
 <211> 103



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<212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> >New ORF = left: 21390 right: 21698 frame: 1 size(aa): 103

<400> 263  
 Cys Ala Trp Pro Ala Ala Pro Thr Ser Ala Pro Gly Arg Trp Pro Arg  
 1 5 10 15  
 Ser Ser Thr Arg Pro Gly Ser Ser Thr Thr Pro Gly Arg Cys Cys Arg  
 20 25 30  
 Ser Cys Pro Arg Cys Arg Ser Thr Arg Arg Leu Pro Pro Arg Trp Pro  
 35 40 45  
 Arg Glu Val Pro Pro Val Arg Trp Thr Thr Ser Gly Pro Pro Trp Pro  
 50 55 60  
 Arg Ser His Pro Val Pro Gly Gln Gly Ala Ala Pro Thr Pro Ser Thr  
 65 70 75 80  
 Ala Thr Ser Ser Gly Ala Trp Leu Arg Pro Ser Arg Arg Pro Ala Ala  
 85 90 95  
 Pro Gly Thr Arg Pro Trp Pro  
 100

<210> 264  
 <211> 69  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> >New ORF = left: 21444 right: 21650 frame: -1 size(aa): 69

<400> 264  
 Pro Gly Pro Arg Gly Cys Cys Gly Thr Arg Arg Arg Cys Arg Ser Leu  
 1 5 10 15  
 Pro Arg Asp Gly Val Gly Ser Gly Pro Gly Arg Pro Gly Cys Arg Pro  
 20 25 30  
 Ser Asn Trp Gly His Leu Pro Gly Pro Pro Gly Arg Gln Pro Ala Gly  
 35 40 45  
 Arg Ser Ala Pro Gly Ala Gly Pro Ala Ala Ser Ala Arg Gly Arg Arg  
 50 55 60  
 Ala Pro Arg Ser Arg  
 65

<210> 265  
 <211> 51  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> >New ORF = left: 21463 right: 21615 frame: -2 size(aa): 51

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<400> 265

Val Pro Leu Pro Ala Pro Gly Arg Gly Gly Ile Trp Ala Arg Ala Ala  
1 5 10 15  
Arg Met Ser Ser Ile Glu Leu Gly Ala Pro Pro Gly Ala Thr Gly Ala  
20 25 30  
Ala Ala Gly Gly Ser Ile Gly Thr Gly Gly Arg Thr Cys Ser Ile Cys  
35 40 45  
Pro Gly Ser  
50

<210> 266

<211> 60

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> >New ORF = left: 21619 right: 21798 frame: -2 size(aa): 60

<400> 266

Asp Ile Ala Cys His Gln Asn Val Pro Val Leu Ile Phe Leu Pro Pro  
1 5 10 15  
Glu Arg Ala Thr Trp Ala Gln Ser Gln Pro Ser Gly Leu Cys Ala Cys  
20 25 30  
Ile Met Ala Thr Ala Trp Ser Arg Val Pro Pro Ala Ser Ser Thr Ala  
35 40 45  
Leu Thr Arg Pro Gln Arg Met Leu Arg Tyr Ser Ala  
50 55 60

<210> 267

<211> 256

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> >New ORF = left: 21655 right: 22422 frame: 2 size(aa): 256

<400> 267

Gly Arg Arg Gly Gly Arg Arg His Pro Gly Pro Gly Arg Gly His Asp  
1 5 10 15  
Ala Gly Ala Gln Pro Arg Gly Leu Gly Leu Arg Pro Gly Gly Pro Leu  
20 25 30  
Arg Gly Gln Glu Asp Gln His Arg Asp Val Leu Val Ala Cys Asp Val  
35 40 45  
Leu Arg Leu Gly Thr Ala Glu Glu Gly Pro Gly Ala Ala Ala Pro Gly  
50 55 60  
Pro Pro Gly Ala Gly Arg Gly Arg Arg Ala Pro Gly Arg Arg Gly Arg  
65 70 75 80  
Pro Trp Asn Arg His Arg Ala Arg Pro Leu Gly Ala Ala Ala Pro Gly  
85 90 95

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Leu Ala Gly His Glu Gln Gly Gly Pro Ala Gln Gly Leu Ala Asp His  
 100 105 110  
 His Leu Arg Thr Gly Pro Ala Asp Ala Gly Leu Pro Ala Gly Gly Ala  
 115 120 125  
 Leu Ala Gln Arg Asp Val Arg Arg Ser His Ala Arg Gln Asp Gly Pro  
 130 135 140  
 Leu Ala Asp Arg Ala Pro Asp Arg Leu Gln Pro Ala Arg Gly Pro Arg  
 145 150 155 160  
 Leu Gln Gly His Gln Gly Glu Arg Gln Asp Arg His Pro Ala Gly Val  
 165 170 175  
 Asp Arg Arg Pro Ala Ala Pro Arg Pro Gly Val Pro Gln His Leu His  
 180 185 190  
 Asp Ala Pro Ala Arg Arg Gly Leu Gly Arg His Arg Gln Arg Pro Ala  
 195 200 205  
 Gly Pro Arg Ala Gln Arg Val Arg Leu Gln Arg His Pro Gln Val Ala  
 210 215 220  
 Asp Leu Arg Arg Gly Pro Gly Leu Pro Ala Arg Leu Pro Leu Arg Leu  
 225 230 235 240  
 His Ala Gly Ala Gly Trp Arg Pro Ala Asp Ala Gln Asp Pro Val Leu  
 245 250 255

<210> 268  
 <211> 103  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> >New ORF = left: 21702 right: 22010 frame: 1 size(aa): 103

<400> 268  
 Cys Arg Arg Thr Ala Pro Arg Ala Gly Ile Ala Pro Arg Trp Pro Ala  
 1 5 10 15  
 Pro Gly Ala Arg Arg Ser Ala Pro Gly Arg Ser Gly Gly Met Arg Cys  
 20 25 30  
 Pro Thr Ala Gly His Arg Arg Arg Arg Pro Arg Ser Arg Arg Pro Arg  
 35 40 45  
 Pro Ala Arg Cys Arg Pro Trp Pro Pro Cys Ser Arg Pro Gln Arg Pro  
 50 55 60  
 Pro Leu Glu Pro Ala Pro Ser Thr Ala Pro Gly Arg Arg Cys Pro Arg  
 65 70 75 80  
 Ala Gly Arg Ala Arg Thr Arg Arg Ala Cys Pro Gly Pro Arg Arg Ser  
 85 90 95  
 Pro Pro Thr Asn Trp Pro Cys  
 100

<210> 269  
 <211> 73  
 <212> PRT  
 <213> Cyanophage S-2L

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<220>  
 <221> misc\_feature  
 <223> >New ORF = left: 21768 right: 21986 frame: -1 size(aa): 73

<400> 269

Ser Ala Arg Pro Trp Ala Gly Pro Pro Cys Ser Cys Pro Ala Ser Pro  
 1 5 10 15  
 Gly Ala Ala Ala Pro Arg Gly Arg Ala Arg Cys Arg Phe Gln Gly Arg  
 20 25 30  
 Pro Leu Arg Pro Gly Ala Arg Arg Pro Arg Pro Ala Pro Gly Gly Pro  
 35 40 45  
 Gly Ala Ala Ala Pro Gly Pro Ser Ser Ala Val Pro Ser Arg Arg Thr  
 50 55 60  
 Ser His Ala Thr Arg Thr Ser Arg Cys  
 65 70

<210> 270  
 <211> 64  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> >New ORF = left: 21802 right: 21993 frame: -2 size(aa): 64

<400> 270

Val Val Ile Cys Glu Ala Leu Gly Arg Pro Ser Leu Phe Val Pro Cys  
 1 5 10 15  
 Gln Pro Gly Gly Ser Gly Ala Gln Gly Pro Cys Ser Val Pro Val Pro  
 20 25 30  
 Gly Ala Ala Ser Ala Ala Trp Ser Thr Ala Ala Thr Ala Gly Thr Trp  
 35 40 45  
 Arg Ala Trp Gly Gly Gly Ser Gly Ala Phe Phe Gly Gly Ala Gln Pro  
 50 55 60

<210> 271  
 <211> 104  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> >New ORF = left: 22014 right: 22325 frame: 1 size(aa): 104

<400> 271

Cys Arg Ser Pro Cys Gly Gly Cys Ser Gly Thr Thr Arg Cys Gln Ala  
 1 5 10 15  
 Lys Ser Cys Thr Ala Arg Arg Pro Ser Arg Arg Ser Ser Ser Arg Ser  
 20 25 30  
 Pro Thr Ala Gly Ser Arg Ala Ser Ala Thr Arg Ser Pro Arg Arg Thr  
 35 40 45  
 Pro Arg Pro Pro Ser Cys Arg Arg Arg Ser Pro Thr Cys Gly Thr Pro  
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50

55

60

Ser Gly Ser Thr Ser Thr Pro Ala Arg Arg Pro Cys Pro Thr Arg Ser  
65 70 75 80

Gly Pro Thr Ser Pro Thr Pro Cys Trp Ala Pro Gly Thr Ala Arg Ser  
85 90 95

Thr Pro Ala Pro Ser Ala Ser Gly  
100

&lt;210&gt; 272

&lt;211&gt; 126

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; &gt;New ORF = left: 22058 right: 22435 frame: -3 size(aa): 126

&lt;400&gt; 272

Gly Gln Gly Val Lys Glu Pro Gly Leu Val His Leu Leu Gly Ala Ser  
1 5 10 15

Gln His Gln His Glu Ala Glu Gly Ala Ala Gly Leu Glu Asp Pro Gly  
20 25 30

His Gly Glu Asp Gln Pro Leu Ala Asp Gly Ala Gly Val Glu Arg Ala  
35 40 45

Val Pro Gly Ala Gln Gln Gly Val Gly Asp Val Gly Pro Asp Leu Val  
50 55 60

Gly Gln Gly Arg Arg Ala Gly Val Glu Val Leu Pro Asp Gly Val Pro  
65 70 75 80

Gln Val Gly Asp Arg Arg Leu Gln Asp Gly Gly Leu Gly Val Leu Leu  
85 90 95

Gly Asp Leu Val Ala Glu Ala Leu Glu Pro Ala Val Gly Asp Leu Glu  
100 105 110

Leu Asp Arg Arg Glu Gly Arg Leu Ala Val His Asp Phe Ala  
115 120 125

&lt;210&gt; 273

&lt;211&gt; 158

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; &gt;New ORF = left: 22138 right: 22611 frame: -2 size(aa): 158

&lt;400&gt; 273

Gly Leu Arg Ser Thr Ser Thr Phe Arg Ser Ile Ile Ala Leu Ser Ser  
1 5 10 15

Ala Leu Ser Cys Leu Glu Arg Pro Pro Ser Ser Ser Pro His Ser Val  
20 25 30

Ile Gln Asp Arg Cys Arg Ala Ile Arg Ser Ser Val Ser Glu Arg Pro  
35 40 45

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Arg Trp Asn Pro Pro Arg Asn His Ser Ser Glu Ala Arg Val Leu Lys  
 50 55 60  
 Asn Arg Val Leu Cys Ile Cys Trp Ala Pro Ala Ser Thr Ser Met Lys  
 65 70 75 80  
 Pro Lys Gly Gln Pro Gly Trp Lys Thr Arg Ala Thr Ala Lys Ile Ser  
 85 90 95  
 His Leu Arg Met Ala Leu Glu Ser Asn Ala Leu Cys Pro Gly Pro Ser  
 100 105 110  
 Arg Ala Leu Ala Met Ser Ala Gln Thr Ser Ser Gly Arg Gly Val Val  
 115 120 125  
 Gln Val Leu Arg Tyr Ser Arg Thr Gly Cys Arg Arg Ser Ala Ile Asp  
 130 135 140  
 Ala Cys Arg Met Ala Val Leu Ala Phe Ser Leu Val Thr Leu  
 145 150 155

<210> 274  
 <211> 51  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> >New ORF = left: 22221 right: 22373 frame: -1 size(aa): 51

<400> 274

Ser Arg Arg Gly Ser Arg Ala Gly Arg Pro Gly Pro Arg Arg Arg Ser  
 1 5 10 15  
 Ala Thr Cys Gly Trp Arg Trp Ser Arg Thr Arg Cys Ala Arg Gly Pro  
 20 25 30  
 Ala Gly Arg Trp Arg Cys Arg Pro Arg Pro Arg Arg Ala Gly Ala Ser  
 35 40 45  
 Cys Arg Cys  
 50

<210> 275  
 <211> 54  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> >New ORF = left: 22329 right: 22490 frame: 1 size(aa): 54

<400> 275

Ser Ser Pro Trp Pro Gly Ser Ser Ser Pro Ala Ala Pro Ser Ala Ser  
 1 5 10 15  
 Cys Trp Cys Trp Leu Ala Pro Ser Arg Cys Thr Arg Pro Gly Ser Leu  
 20 25 30  
 Thr Pro Trp Pro Gln Thr Ser Gly Ser Trp Ala Asp Ser Ser Gly Ala  
 35 40 45  
 Ala Leu Thr Pro Thr Thr  
 50

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<210> 276  
 <211> 177  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> >New ORF = left: 22439 right: 22969 frame: -3 size(aa): 177

<400> 276

```

Leu Asp Val Asp Ala Val Ala Pro Val Gly Gln Pro Leu Gln Val Asp
1      5      10      15
Arg Ala Ile Gln Val His Leu Asp Arg Pro His Pro Gly Val Leu His
      20      25      30
Leu Lys Ala Leu Val Ala Phe Arg Val Asp Leu Gln Leu Leu Leu Val
      35      40      45
Glu Val Pro Glu Leu Ala Ala Ala Val Leu Pro Glu Gly Gly Cys Pro
      50      55      60
Asp Leu Val Ser His Leu Leu Gln Ala Leu Ala Val Asp Pro Leu Val
      65      70      75      80
Asp Gly His Asp His Val Pro Pro Val Ala Gly Arg Val Gly Glu Glu
      85      90      95
Pro Ile Pro Ala Val Arg Arg Pro Ala Glu Asp Glu Ala Pro Gly Ala
      100     105     110
Ala Phe Val Arg Gly Gly Val Gly Pro Pro Glu His Val His Leu Pro
      115     120     125
Val Asp His Arg Leu Glu Leu Gly Ala Val Val Leu Gly Glu Ala Ala
      130     135     140
Val Glu Leu Pro Pro Leu Gly Asp Pro Gly Pro Val Gln Gly Asn Gln
      145     150     155     160
Val Val Gly Val Arg Ala Ala Pro Leu Glu Ser Ala Gln Glu Pro Leu
      165     170     175
val

```

<210> 277  
 <211> 130  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> >New ORF = left: 22480 right: 22869 frame: 2 size(aa): 130

<400> 277

```

His Arg Arg Pro Asp Cys Pro Ala Pro Val Leu Asp His Arg Val Gly
1      5      10      15
Gly Ala Arg Arg Arg Pro Leu Gln Ala Arg Gln Arg Arg Ala Gln Gly
      20      25      30
Asp Asp Arg Pro Glu Gly Gly Arg Ala Pro Glu Ala Leu Arg Arg His

```

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35

40

45

Ala Arg Lys Leu Pro Pro Glu Leu Arg Pro Leu Arg Asp Asp Glu Pro  
 50 55 60  
 Pro Gly Trp Ala Leu His Arg Pro Asp Arg Gln Gln Ala Val Arg Gly  
 65 70 75 80  
 Arg Ala Arg Gln Pro Ala Asp Arg Gln Arg Ala Pro Gly Ala Asp Ala  
 85 90 95  
 Arg Pro Asp Leu Gly Asn Arg Pro Pro Gly Val Pro Gln Arg Gln Ala  
 100 105 110  
 Leu Val Pro Arg Arg Gly Gly Ala Gly Asp Gln Arg Glu Thr Gln Gln  
 115 120 125

Gly Pro  
 130

&lt;210&gt; 278

&lt;211&gt; 110

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; &gt;New ORF = left: 22581 right: 22910 frame: 1 size(aa): 110

&lt;400&gt; 278

Ser Thr Gly Arg Trp Thr Cys Ser Gly Gly Pro Thr Pro Pro Arg Thr  
 1 5 10 15  
 Lys Ala Ala Pro Gly Ala Ser Ser Ser Ala Gly Arg Arg Thr Ala Gly  
 20 25 30  
 Met Gly Ser Ser Pro Thr Arg Pro Ala Thr Gly Gly Thr Trp Ser Cys  
 35 40 45  
 Pro Ser Thr Ser Gly Ser Thr Ala Ser Ala Trp Ser Arg Cys Glu Thr  
 50 55 60  
 Arg Ser Gly Gln Pro Pro Ser Gly Ser Thr Ala Ala Ala Ser Ser Gly  
 65 70 75 80  
 Thr Ser Thr Arg Arg Ser Trp Arg Ser Thr Arg Asn Ala Thr Arg Ala  
 85 90 95  
 Leu Arg Trp Arg Thr Pro Gly Trp Gly Arg Ser Arg Cys Thr  
 100 105 110

&lt;210&gt; 279

&lt;211&gt; 112

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; &gt;New ORF = left: 22615 right: 22950 frame: -2 size(aa): 112

&lt;400&gt; 279

Arg Pro Ser Val Ser Arg Ser Arg Ser Ile Glu Leu Phe Arg Cys Ile  
 1 5 10 15



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Trp Ile Val Pro Thr Gln Ala Ser Ser Thr Ser Arg Pro Leu Leu Arg  
 20 25 30  
 Phe Ala Leu Ile Ser Ser Ser Ser Ser Arg Tyr Gln Ser Leu Pro  
 35 40 45  
 Leu Arg Tyr Ser Arg Arg Ala Val Ala Gln Ile Trp Ser Arg Ile Cys  
 50 55 60  
 Ser Arg Arg Ser Leu Ser Ile Arg Trp Leu Thr Gly Thr Thr Thr Tyr  
 65 70 75 80  
 Arg Leu Leu Pro Val Gly Ser Val Lys Ser Pro Ser Arg Arg Phe Val  
 85 90 95  
 Val Pro Gln Arg Thr Lys Leu Arg Gly Gln Leu Ser Cys Val Ala Ala  
 100 105 110

<210> 280  
 <211> 134  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> >New ORF = left: 22918 right: 23319 frame: 2 size(aa): 134

<400> 280  
 Leu Asp Arg Pro Gly Ala Ala Asp Arg Arg Ala Leu Arg His Gln His  
 1 5 10 15  
 Arg Val Ser Leu Pro Gln Asp Arg Ala Arg Gly Gly Thr Pro Trp Pro  
 20 25 30  
 Gly Leu Arg Lys Ala Asp Pro Gly His His Ala Glu Pro Gly Leu Gly  
 35 40 45  
 Ala Arg Ala Ala Ala Ser Arg Gln Arg Pro Glu Arg Gln Pro Gly Glu  
 50 55 60  
 Ala Leu Gly Ala Arg Pro Gly Gly Val Ala Gln Gly Met Val Gly Thr  
 65 70 75 80  
 Val Ala Gln Gly Asp Thr Val Arg Ala Thr Val Pro Gly Arg Ala Gly  
 85 90 95  
 Gly Val Arg Glu Gly Leu Ala Pro Arg Ile Cys Pro Ser His Gly Pro  
 100 105 110  
 Ile Pro Pro Val Val Leu Leu Cys His Pro Pro Pro Arg Arg Glu Arg  
 115 120 125  
 Lys Lys Gly Gly Gln Glu  
 130

<210> 281  
 <211> 105  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> >New ORF = left: 22973 right: 23287 frame: -3 size(aa): 105

<400> 281

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Gly Gly Gly Gly Thr Thr Ala Gln Gln Gly Glu Ser Gly Arg Gly Thr  
 1 5 10 15  
 Gly Arg Phe Glu Val Pro Thr Pro Pro Gly Pro Pro Arg His Gly Pro  
 20 25 30  
 Ala Gln Trp His Gly Leu Cys Arg Pro Val Pro Pro Phe Arg Pro Ser  
 35 40 45  
 Pro Val Leu Pro Pro Leu Asp Gly Arg Pro Thr Pro His Arg Val Ala  
 50 55 60  
 Ala Arg Val Ala Gly Glu Thr Gln Pro His Gly Leu Pro Ala Gln Ala  
 65 70 75 80  
 Gln His Gly Val Pro Asp Pro Leu Ser Glu Ala Arg Ala Thr Ala Ser  
 85 90 95  
 His Leu Gly Leu Asp Leu Glu Val Asp  
 100 105

<210> 282  
 <211> 161  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> >New ORF = left: 22978 right: 23460 frame: -2 size(aa): 161

<400> 282  
 His Gly Gly Arg Gly Pro Val Ser Thr Glu Ser Arg Gly Gly Thr Ala  
 1 5 10 15  
 Arg Trp Gly Gly Pro Ala Gly Gly Leu Cys Arg Arg Ala Val Leu Ser  
 20 25 30  
 Leu Leu Leu Ser Pro Val Pro Arg Phe Pro Gly Ile Thr Leu Leu Leu  
 35 40 45  
 Leu Thr Pro Phe Phe Ser Leu Ser Pro Arg Gly Gly Val Ala Gln Gln  
 50 55 60  
 His Asn Arg Gly Asn Arg Ala Val Gly Arg Ala Asp Ser Arg Cys Gln  
 65 70 75 80  
 Pro Leu Pro Asp Pro Pro Gly Thr Ala Arg His Ser Gly Thr Asp Cys  
 85 90 95  
 Val Ala Leu Cys His Arg Ser Asp His Pro Leu Cys Tyr Pro Pro Trp  
 100 105 110  
 Thr Gly Ala Gln Arg Leu Thr Gly Leu Pro Leu Gly Ser Leu Ala Arg  
 115 120 125  
 Arg Ser Arg Thr Gly Ser Gln Pro Arg Leu Ser Met Val Ser Arg Ile  
 130 135 140  
 Arg Phe Pro Lys Pro Gly Pro Arg Arg Pro Thr Ser Gly Ser Ile Leu  
 145 150 155 160  
 Arg

<210> 283

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<211> 110  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> >New ORF = left: 22983 right: 23312 frame: -1 size(aa): 110

<400> 283

```
Pro Pro Phe Phe Leu Ser Leu Leu Gly Gly Gly Trp His Asn Ser Thr
1      5      10
Thr Gly Gly Ile Gly Pro Trp Asp Gly Gln Ile Arg Gly Ala Asn Pro
20     25     30
Ser Arg Thr Pro Pro Ala Arg Pro Gly Thr Val Ala Arg Thr Val Ser
35     40     45
Pro Cys Ala Thr Val Pro Thr Ile Pro Cys Ala Thr Pro Pro Gly Arg
50     55     60
Ala Pro Asn Ala Ser Pro Gly Cys Arg Ser Gly Arg Trp Arg Asp Ala
65     70     75     80
Ala Ala Arg Ala Pro Ser Pro Gly Ser Ala Trp Cys Pro Gly Ser Ala
85     90     95
Phe Arg Ser Pro Gly His Gly Val Pro Pro Arg Ala Arg Ser
100    105    110
```

<210> 284  
<211> 60  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> >New ORF = left: 23109 right: 23288 frame: 1 size(aa): 60

<400> 284

```
Gly Val Gly Arg Pro Ser Arg Gly Gly Ser Thr Gly Asp Gly Arg Asn
1      5      10
Gly Gly Thr Gly Arg His Ser Pro Cys His Cys Ala Gly Pro Cys Arg
20     25     30
Gly Gly Pro Gly Gly Val Gly Thr Ser Asn Leu Pro Val Pro Arg Pro
35     40     45
Asp Ser Pro Cys Cys Ala Val Val Pro Pro Pro Pro
50     55     60
```

<210> 285  
<211> 139  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> >New ORF = left: 23138 right: 23554 frame: 3 size(aa): 139

<400> 285

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His Arg Gly Trp Ser Glu Arg Trp His Arg Ala Thr Gln Ser Val Pro  
 1 5 10 15  
 Leu Cys Arg Ala Val Pro Gly Gly Ser Gly Arg Gly Trp His Leu Glu  
 20 25 30  
 Ser Ala Arg Pro Thr Ala Arg Phe Pro Leu Leu Cys Cys Cys Ala Thr  
 35 40 45  
 Pro Pro Leu Gly Glu Arg Glu Lys Lys Gly Val Arg Ser Asn Arg Val  
 50 55 60  
 Ile Pro Gly Asn Arg Gly Thr Gly Glu Arg Arg Ser Asp Ser Thr Ala  
 65 70 75 80  
 Arg Arg His Arg Pro Pro Ala Gly Pro Pro His Arg Ala Val Pro Pro  
 85 90 95  
 Arg Asp Ser Val Glu Thr Gly Pro Leu Pro Pro Cys Tyr Thr Gly Asp  
 100 105 110  
 Asp Asn Asp Ala Ile Glu Arg Pro Cys Cys Ser Pro Thr Cys Pro Asn  
 115 120 125  
 Gly Arg Ala Lys His Pro Arg Thr Cys Leu Thr  
 130 135

&lt;210&gt; 286

&lt;211&gt; 251

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; &gt;New ORF = left: 23316 right: 24068 frame: -1 size(aa): 251

&lt;400&gt; 286

His Pro Glu Arg Gln Gly Ala Ile Pro Pro Asp Asn Thr Leu Arg Gln  
 1 5 10 15  
 Thr Glu Gln Val Pro Gln Asp Glu Pro Leu Gly Val Gly Ala Lys Leu  
 20 25 30  
 Gln Glu Leu Gly Pro Asp Arg Pro Leu Pro Gly Asp Leu Asp Gly Leu  
 35 40 45  
 Pro Ala Glu His Val Pro Leu Gly Arg Gln Gly Leu Leu Asp Ala Gly  
 50 55 60  
 Gln Arg Arg Arg His Leu Val Gly Ile Lys Glu Pro Glu Gly Ala Thr  
 65 70 75 80  
 Lys Ala Arg His Arg Gln Phe Gly Val Gly His Leu Gly Gly Gly Gly  
 85 90 95  
 Gln Gln Val Phe Asp Arg His Pro Leu Arg Arg Ser Ser Gln Ala Arg  
 100 105 110  
 Val Ser Ser Ala Gln Thr Ile Ala Ser Ala Arg Ser Leu Leu Glu Ile  
 115 120 125  
 Val Gln Pro Cys Arg Gln Arg Phe Thr Tyr Ser Val Ala Ser Ile Arg  
 130 135 140  
 Ser Cys Trp Val Val Pro Gly Arg Arg Ser Leu Lys Lys Arg Asn Ser  
 145 150 155 160

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Arg Leu Leu Ser Val Ser Lys Ser Met Lys Ala Thr Ser Asp Arg Ser  
165 170 175  
Gly Gly Val Ser Pro Ser His Ser Gly Met Ser Glu Asn Ser Met Val  
180 185 190  
Ala Arg Leu Arg Arg Cys His Pro Gln Tyr Ser Thr Ala Gly Gly Ala  
195 200 205  
Arg Ser Arg Leu Ser Pro Gly Val Gly Arg Pro Gly Gly Gly Val Pro  
210 215 220  
Gln Gly Val Cys Ala Val Val Pro Cys Cys Arg Ser Ser Phe Pro Pro  
225 230 235 240  
Phe Pro Gly Ser Pro Val Ser Pro Cys Tyr Ser  
245 250

<210> 287  
<211> 50  
<212> PRT  
<213> Cyanophage S-2L  
<220>  
<221> misc\_feature  
<223> >New ORF = left: 23323 right: 23472 frame: 2 size(aa): 50

<400> 287  
Gln Gly Asp Thr Gly Glu Pro Gly Asn Gly Gly Lys Glu Glu Arg Gln  
1 5 10 15  
His Gly Thr Thr Ala Gln Thr Pro Cys Gly Thr Pro Pro Pro Gly Arg  
20 25 30  
Pro Thr Pro Gly Leu Ser Arg Asp Arg Ala Pro Pro Ala Val Leu Tyr  
35 40 45  
Trp Gly  
50

<210> 288  
<211> 73  
<212> PRT  
<213> Cyanophage S-2L  
<220>  
<221> misc\_feature  
<223> >New ORF = left: 23331 right: 23549 frame: 1 size(aa): 73

<400> 288  
Tyr Arg Gly Thr Gly Glu Arg Gly Lys Gly Gly Ala Thr Ala Arg His  
1 5 10 15  
Asp Gly Thr Asp Pro Leu Arg Asp Pro Pro Thr Gly Pro Ser His Pro  
20 25 30  
Gly Thr Gln Ser Arg Pro Gly Pro Ser Arg Arg Ala Ile Leu Gly Met  
35 40 45  
Thr Thr Thr Gln Ser Ser Asp His Ala Val Leu Arg His Ala Arg Met  
50 55 60  
Gly Gly Arg Asn Thr Pro Gly Pro Val

65

70

<210> 289  
 <211> 156  
 <212> PRT  
 <213> Cyanophage S-2L  
  
 <220>  
 <221> misc\_feature  
 <223> >New ORF = left: 23464 right: 23931 frame: -2 size(aa): 156

&lt;400&gt; 289

Arg Pro Ser Cys Arg Ala Arg Thr Pro Trp Pro Pro Gly Ala Ala Arg  
 1 5 10 15  
 Arg Arg Pro Glu Thr Ser Ala Ser Arg Gly Asp Gln Gly Thr Gly Gly  
 20 25 30  
 Arg Asn Glu Gly Ser Thr Pro Pro Val Arg Gly Gly Pro Pro Arg Trp  
 35 40 45  
 Gly Trp Pro Ala Gly Leu Arg Ser Ser Ser Phe Glu Ala Glu Leu Pro  
 50 55 60  
 Gly Pro Arg Phe Phe Gly Pro Asp His Arg Val Gly Gln Val Thr Leu  
 65 70 75 80  
 Gly Asp Arg Pro Ala Met Pro Ala Glu Ile His Val Leu Gly Gly Gln  
 85 90 95  
 His Pro Val Val Leu Gly Gly Ala Arg Gln Ala Val Ala Lys Glu Ala  
 100 105 110  
 Gln Leu Gln Ala Pro Gln Arg Phe Gln Glu His Glu Gly Tyr Val Arg  
 115 120 125  
 Gln Val Arg Gly Cys Phe Ala Leu Pro Phe Gly His Val Gly Glu Gln  
 130 135 140  
 His Gly Arg Ser Ile Ala Ser Leu Ser Ser Pro Val  
 145 150 155

<210> 290  
 <211> 95  
 <212> PRT  
 <213> Cyanophage S-2L  
  
 <220>  
 <221> misc\_feature  
 <223> >New ORF = left: 23476 right: 23760 frame: 2 size(aa): 95

&lt;400&gt; 290

Gln Arg Arg Asn Arg Ala Thr Met Leu Phe Ser Asp Met Pro Glu Trp  
 1 5 10 15  
 Glu Gly Glu Thr Pro Pro Asp Leu Ser Asp Val Ala Phe Met Leu Leu  
 20 25 30  
 Glu Thr Leu Arg Ser Leu Glu Leu Arg Phe Phe Ser Asp Arg Leu Pro  
 35 40 45  
 Gly Thr Thr Gln His Asp Arg Met Leu Ala Thr Glu Tyr Val Asn Leu  
 50 55 60

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Cys Arg His Gly Trp Thr Ile Ser Lys Ser Asp Leu Ala Asp Ala Met  
65 70 75 80

Val Trp Ala Glu Glu Thr Arg Ala Trp Glu Leu Arg Leu Lys Gly  
85 90 95

<210> 291  
<211> 62  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> >New ORF = left: 23663 right: 23848 frame: 3 size(aa): 62

<400> 291

Ile Ser Ala Gly Met Ala Gly Arg Ser Pro Arg Val Thr Trp Pro Thr  
1 5 10 15

Arg Trp Ser Gly Pro Lys Lys Arg Gly Pro Gly Ser Ser Ala Ser Lys  
20 25 30

Asp Asp Asp Arg Arg Pro Ala Gly His Pro His Arg Gly Gly Pro Pro  
35 40 45

Arg Thr Gly Gly Val Glu Pro Ser Leu Arg Pro Pro Val Pro  
50 55 60

<210> 292  
<211> 109  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> >New ORF = left: 23700 right: 24026 frame: 1 size(aa): 109

<400> 292

Pro Gly Arg Arg Asp Gly Leu Gly Arg Arg Asn Ala Gly Leu Gly Ala  
1 5 10 15

Pro Pro Gln Arg Met Thr Ile Glu Asp Leu Leu Ala Thr Pro Thr Glu  
20 25 30

Val Ala His Pro Glu Leu Ala Val Ser Ser Leu Arg Cys Ala Leu Arg  
35 40 45

Phe Leu Asp Pro His Glu Met Pro Thr Ser Leu Ala Cys Val Glu Gln  
50 55 60

Pro Leu Ala Ala Lys Gly Tyr Val Leu Gly Arg Lys Ala Val Lys Val  
65 70 75 80

Ala Trp Gln Arg Ala Ile Arg Ala Glu Leu Leu Glu Leu Arg Pro His  
85 90 95

Ser Lys Arg Leu Val Leu Arg Asn Leu Leu Arg Leu Ser  
100 105

<210> 293  
<211> 108  
<212> PRT  
<213> Cyanophage S-2L

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<220>  
 <221> misc\_feature  
 <223> >New ORF = left: 23756 right: 24079 frame: -3 size(aa): 108

<400> 293

Thr Tyr Tyr Ser Ile Pro Asn Gly Arg Ala Gln Tyr Pro Arg Thr Ile  
 1 5 10 15  
 Arg Tyr Asp Arg Arg Ser Arg Phe Leu Lys Thr Ser Arg Leu Glu Trp  
 20 25 30  
 Gly Arg Ser Ser Arg Ser Ser Ala Arg Ile Ala Leu Cys Gln Ala Thr  
 35 40 45  
 Leu Thr Ala Phe Leu Pro Ser Thr Tyr Pro Leu Ala Ala Arg Gly Cys  
 50 55 60  
 Ser Thr Gln Ala Arg Asp Val Gly Ile Ser Trp Gly Ser Arg Asn Arg  
 65 70 75 80  
 Arg Ala Gln Arg Arg Leu Asp Thr Ala Ser Ser Gly Trp Ala Thr Ser  
 85 90 95  
 Val Gly Val Ala Ser Arg Ser Ser Ile Val Ile Leu  
 100 105

<210> 294  
 <211> 80  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> >New ORF = left: 23764 right: 24003 frame: 2 size(aa): 80

<400> 294

Arg Ser Lys Thr Cys Trp Pro Pro Pro Pro Arg Trp Pro Thr Pro Asn  
 1 5 10 15  
 Trp Arg Cys Arg Ala Phe Val Ala Pro Ser Gly Ser Leu Ile Pro Thr  
 20 25 30  
 Arg Cys Arg Arg Leu Trp Pro Ala Ser Ser Ser Pro Trp Arg Pro Arg  
 35 40 45  
 Gly Thr Cys Ser Ala Gly Arg Pro Ser Arg Ser Pro Gly Lys Gly Arg  
 50 55 60  
 Ser Gly Pro Ser Ser Trp Ser Phe Ala Pro Thr Pro Ser Gly Ser Ser  
 65 70 75 80

<210> 295  
 <211> 194  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> >New ORF = left: 23852 right: 24433 frame: 3 size(aa): 194

<400> 295

Ser Pro Arg Asp Ala Asp Val Ser Gly Leu Arg Arg Ala Ala Pro Gly  
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```

1           5           10           15
Gly Gln Gly Val Arg Ala Arg Gln Glu Gly Arg Gln Gly Arg Leu Ala
20           25           30
Lys Gly Asp Pro Gly Arg Ala Pro Gly Ala Ser Pro Pro Leu Gln Ala
35           40           45
Ala Arg Leu Glu Glu Pro Ala Pro Ser Val Val Ala Tyr Cys Pro Gly
50           55           60
Val Leu Arg Pro Ala Val Arg Asp Ala Ile Ile Arg Ser Glu His Arg
65           70           75           80
Lys Asn Gln Trp Pro Ser Pro Pro Ser Ser Arg Pro Pro Thr Phe Pro
85           90           95
Pro Pro Pro Lys Ala Trp Ser Phe Ala Thr Cys Arg Pro Arg Ser Pro
100          105          110
Ala Ser Pro Ala Pro Arg Cys Pro Ser Arg Pro Pro Arg Cys Asn Arg
115          120          125
Pro Trp Pro Ala Pro Ala Thr Thr Pro Pro Pro Arg Lys Pro Pro Ser
130          135          140
Ser Gly Pro Pro Pro Pro Pro Pro Arg Cys Pro Trp Pro Pro Ile Ala
145          150          155          160
Pro Ala Arg Pro Ser Thr Gly Pro Ser Pro Ser Cys Arg Ser Pro Asp
165          170          175
Pro Pro Ala Lys Arg Gly Gly Pro Ser Arg Ala Ser Pro Val Ile Leu
180          185          190
Arg Pro

```

```

<210> 296
<211> 172
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 23935 right: 24450 frame: -2 size(aa): 172

```

```

<400> 296
His Arg Tyr Leu Ser His Gly Arg Ser Ile Thr Gly Glu Ala Arg Glu
1           5           10          15
Gly Pro Pro Arg Leu Ala Gly Gly Ser Gly Asp Arg Gln Asp Gly Asp
20           25           30
Gly Pro Val Glu Gly Leu Ala Gly Ala Ile Gly Gly Gln Gly His Leu
35           40           45
Gly Gly Gly Gly Gly Gly Pro Glu Leu Gly Gly Phe Leu Gly Gly Gly
50           55           60
Val Val Ala Gly Ala Gly Gln Gly Leu Leu His Leu Gly Gly Arg Leu
65           70           75           80
Gly His Leu Gly Ala Gly Glu Ala Gly Asp Arg Gly Leu Gln Val Ala
85           90           95

```

261089ST25.txt

Asn Asp Gln Ala Leu Gly Gly Gly Gly Lys Val Gly Gly Leu Asp Glu  
 100 105 110

Gly Gly Glu Gly His Trp Phe Phe Leu Cys Ser Glu Arg Ile Ile Ala  
 115 120 125

Ser Arg Thr Ala Gly Arg Asn Thr Pro Gly Gln Tyr Ala Thr Thr Asp  
 130 135 140

Gly Ala Gly Ser Ser Arg Arg Ala Ala Trp Ser Gly Gly Glu Ala Pro  
 145 150 155 160

Gly Ala Arg Pro Gly Ser Pro Phe Ala Arg Arg Pro  
 165 170

<210> 297  
 <211> 123  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> >New ORF = left: 24007 right: 24375 frame: 2 size(aa): 123

<400> 297

Gly Thr Cys Ser Val Cys Arg Ser Val Leu Ser Gly Gly Ile Ala Pro  
 1 5 10 15

Cys Arg Ser Gly Cys Tyr Asn Thr Phe Arg Thr Gln Glu Lys Pro Met  
 20 25 30

Ala Leu Ala Ser Phe Ile Gln Thr Thr Asp Leu Ser Ala Ala Thr Gln  
 35 40 45

Gly Leu Val Ile Arg His Leu Gln Thr Ala Ile Ser Cys Leu Thr Arg  
 50 55 60

Thr Glu Met Pro Lys Ser Ala Thr Glu Val Gln Gln Ala Leu Ala Gly  
 65 70 75 80

Ala Gly Tyr Asp Ala Thr Thr Glu Glu Ala Ala Glu Leu Trp Thr Ala  
 85 90 95

Ala Ala Thr Ala Gln Val Pro Leu Ala Ser Asn Arg Thr Arg Lys Ala  
 100 105 110

Leu Tyr Arg Ala Val Ala Val Leu Pro Val Ala  
 115 120

<210> 298  
 <211> 60  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> >New ORF = left: 24072 right: 24251 frame: -1 size(aa): 60

<400> 298

Pro Ala Pro Ala Arg Ala Cys Cys Thr Ser Val Ala Asp Leu Gly Ile  
 1 5 10 15

Ser Val Arg Val Arg Gln Glu Ile Ala Val Cys Arg Trp Arg Met Thr  
 20 25 30

261089ST25.txt

Arg Pro Trp Val Ala Ala Glu Arg Ser Val Val Trp Met Lys Glu Ala  
35 40 45

Arg Ala Ile Gly Phe Ser Cys Val Leu Asn Val Leu  
50 55 60

<210> 299

<211> 220

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> >New ORF = left: 24075 right: 24734 frame: 1 size(aa): 220

<400> 299

Tyr Val Gln Asn Thr Gly Lys Thr Asn Gly Pro Arg Leu Leu His Pro  
1 5 10 15

Asp His Arg Pro Phe Arg Arg His Pro Arg Pro Gly His Ser Pro Pro  
20 25 30

Ala Asp Arg Asp Leu Leu Pro His Pro His Arg Asp Ala Gln Val Gly  
35 40 45

His Arg Gly Ala Thr Gly Pro Gly Arg Arg Arg Leu Arg Arg His His  
50 55 60

Arg Gly Ser Arg Arg Ala Leu Asp Arg Arg Arg His Arg Pro Gly Ala  
65 70 75 80

Pro Gly Leu Gln Ser His Pro Gln Gly Pro Leu Pro Gly Arg Arg Arg  
85 90 95

Pro Ala Gly Arg Leu Thr Arg Arg Pro Asn Glu Gly Gly Pro Pro Gly  
100 105 110

Pro Pro Arg Leu Tyr Ser Ala His Asp Ser Gly Ile Asp Val Thr Ala  
115 120 125

Gly Pro Gly Gly Ala Pro Gly Arg Ala Thr Ala Arg Arg Arg Ala Glu  
130 135 140

Val Arg His Cys Ala Pro Asp Asp Gly Leu Ser Gly Arg Val Arg His  
145 150 155 160

Leu Gly Ala Gly Gly Leu Gln Ala Asp Pro Gly Arg Gln Gly Gln Thr  
165 170 175

Gly His Arg Pro Arg Cys Gly Gly Pro Val Arg Gly Asp Gly Cys His  
180 185 190

Pro Gly Pro Leu Gly Val Gly Leu Cys Trp Gly Asp Ala Glu Arg Gly  
195 200 205

Leu Gly Leu Arg Leu Gln Gly Pro Ala Gly His Leu  
210 215 220

<210> 300

<211> 106

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> >New ORF = left: 24194 right: 24511 frame: -3 size(aa): 106

<400> 300

```

Arg Thr Ser Ala Arg Leu Arg Ala Val Ala Leu Pro Gly Ala Pro Pro
1      5      10      15
Gly Pro Ala Val Thr Ser Ile Pro Glu Ser Trp Ala Glu Tyr Asn Arg
20     25     30
Gly Gly Pro Gly Gly Pro Pro Ser Phe Gly Arg Arg Val Arg Arg Pro
35     40     45
Ala Gly Arg Arg Arg Pro Gly Arg Gly Pro Cys Gly Cys Asp Trp Arg
50     55     60
Pro Gly Ala Pro Gly Arg Trp Arg Arg Arg Ser Arg Ala Arg Arg Leu
65     70     75     80
Pro Arg Trp Trp Arg Arg Ser Arg Arg Arg Pro Gly Pro Val Ala Pro
85     90     95
Arg Trp Pro Thr Trp Ala Ser Arg Cys Gly
100    105

```

<210> 301

<211> 126

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 24379 right: 24756 frame: 2 size(aa): 126

<400> 301

```

Pro Ala Gly Gln Thr Arg Gly Ala Leu Pro Gly Leu Pro Gly Tyr Thr
1      5      10      15
Pro Pro Met Thr Gln Val Ser Met Ser Arg Arg Asp Gln Val Glu His
20     25     30
Leu Val Glu Leu Leu Arg Glu Gly Gly Gln Lys Ser Val Thr Ala His
35     40     45
Leu Met Thr Val Cys Leu Asp Glu Phe Gly Ile Ser Ala Pro Glu Ala
50     55     60
Phe Lys Arg Ile Arg Asp Ala Lys Ala Lys Leu Ala Thr Gly Leu Asp
65     70     75     80
Ala Val Asp Arg Ser Glu Glu Met Ala Ala Thr Leu Ala Arg Trp Glu
85     90     95
Ser Val Phe Ala Gly Ala Met Arg Ser Glu Asp Trp Gly Ser Ala Cys
100    105    110
Lys Ala Leu Gln Gly Ile Cys Asn Met Leu Gly Leu Lys Pro
115    120    125

```

<210> 302

<211> 113

<212> PRT

<213> Cyanophage S-2L

<220>

261089ST25.txt

<221> misc\_feature  
<223> New ORF = left: 24441 right: 24779 frame: -1 size(aa): 113

<400> 302

Leu Ala Gly Ile Gly Pro Arg Gln Gly Phe Asn Pro Ser Met Leu Gln  
1 5 10 15  
Met Pro Cys Arg Ala Leu Gln Ala Glu Pro Gln Ser Ser Leu Arg Ile  
20 25 30  
Ala Pro Ala Lys Thr Asp Ser Gln Arg Ala Arg Val Ala Ala Ile Ser  
35 40 45  
Ser Asp Arg Ser Thr Ala Ser Arg Pro Val Ala Ser Leu Ala Leu Ala  
50 55 60  
Ser Arg Ile Arg Leu Lys Ala Ser Gly Ala Glu Met Pro Asn Ser Ser  
65 70 75 80  
Arg Gln Thr Val Ile Arg Cys Ala Val Thr Asp Phe Cys Pro Pro Ser  
85 90 95  
Arg Ser Ser Ser Thr Arg Cys Ser Thr Trp Ser Arg Arg Asp Ile Asp  
100 105 110

Thr

<210> 303  
<211> 87  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> New ORF = left: 24487 right: 24747 frame: -2 size(aa): 87

<400> 303

Pro Gln His Val Thr Asp Ala Leu Gln Gly Leu Ala Gly Gly Ala Pro  
1 5 10 15  
Val Leu Ala Pro His Arg Pro Ser Lys Asp Arg Leu Pro Ala Gly Gln  
20 25 30  
Gly Gly Ser His Leu Leu Gly Pro Val His Arg Ile Glu Ala Gly Gly  
35 40 45  
Gln Phe Gly Leu Gly Val Pro Asp Pro Leu Glu Gly Leu Arg Arg Arg  
50 55 60  
Asp Ala Glu Leu Val Gln Thr Asp Arg His Gln Val Arg Ser Asp Gly  
65 70 75 80  
Leu Leu Pro Ala Phe Ala Gln  
85

<210> 304  
<211> 73  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> New ORF = left: 24530 right: 24748 frame: 3 size(aa): 73  
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&lt;400&gt; 304

Arg Ser Val Trp Thr Ser Ser Ala Ser Arg Arg Arg Arg Pro Ser Ser  
 1 5 10 15  
 Gly Ser Gly Thr Pro Arg Pro Asn Trp Pro Pro Ala Ser Met Arg Trp  
 20 25 30  
 Thr Gly Pro Arg Arg Trp Leu Pro Pro Trp Pro Ala Gly Ser Arg Ser  
 35 40 45  
 Leu Leu Gly Arg Cys Gly Ala Arg Thr Gly Ala Pro Pro Ala Arg Pro  
 50 55 60  
 Cys Arg Ala Ser Val Thr Cys Trp Gly  
 65 70

&lt;210&gt; 305

&lt;211&gt; 784

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 24575 right: 26926 frame: -3 size(aa): 784

&lt;400&gt; 305

Glu Gly Pro Ala Ser Gly Val Gly Asp Gly Ala Asp Arg Trp Gly Pro  
 1 5 10 15  
 Arg Arg Pro Val Ala Leu Pro Ser Tyr Pro Arg Gly Ser Gly Val Asp  
 20 25 30  
 Ser Glu Arg Arg Ile Ala Asp Gln Leu Asp Asp Arg His Gln Ala Gly  
 35 40 45  
 Leu Gly Val Asp Glu Leu Pro Ala Val Gly Ile Asp Gln Val Gly Val  
 50 55 60  
 Leu Gly Val Val Arg Gly Val Gly Leu Val Gly Asp Pro Glu Asp Pro  
 65 70 75 80  
 His Arg Ala Val Pro Val Gly Gly Glu His Leu Leu Glu Ala Glu Asp  
 85 90 95  
 Val Leu Pro Val Ala His Pro Glu Val Ala Leu Asp Ala Leu Pro Asp  
 100 105 110  
 Gly Ala Val Gly His Gln Val Asp Gly Val Leu Val Pro Ile Gly Gly  
 115 120 125  
 Val Asp Arg Arg Gly Glu Gln Val Val His Asp Asp Thr Glu Ala Ser  
 130 135 140  
 His Val Gly Asn Ala Gly Leu Gly Asp Pro Asp Ala Ala Ala Ala Pro  
 145 150 155 160  
 Leu Asp Leu Ala Pro Gly Gly Gln Ala Val Gly Ala Glu Gly Gln His  
 165 170 175  
 Pro Asp Gly Leu Gln Val Val Arg Lys Ile Ala Val His Gly Arg Asp  
 180 185 190  
 Leu Glu His Gly Ala Pro Leu Thr Glu Pro Gly Leu Thr Pro Glu His  
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195					200					205					
His	Arg	Arg	Ala	Gln	Glu	Val	Val	Arg	Val	Ala	Arg	Ala	Gly	Ala	Gly
	210					215					220				
Pro	Ala	Asp	Val	Asn	His	Val	Gly	Gly	Gly	Gln	Gly	Ala	Pro	Glu	Gly
225					230					235					240
Ala	Leu	His	Gly	Gly	Gln	Gly	Pro	Leu	Arg	Leu	Glu	Ala	Leu	Gly	Pro
				245					250					255	
Gly	Asp	Asp	Val	Gly	Leu	Glu	Gly	Arg	His	Arg	Val	Asp	Ala	Gly	Asp
			260					265					270		
Asp	Leu	Gly	Glu	Leu	Val	Gly	Ala	Gly	Ser	Glu	Ala	Pro	Val	His	Asp
		275					280					285			
Gly	Glu	Phe	Pro	Val	Pro	Gly	Val	Glu	Leu	Leu	Gly	Gly	Gln	Val	Ala
	290					295					300				
Phe	Ala	Ala	Gly	Ala	Pro	Gly	Ala	Val	Ala	Leu	Asp	Arg	Leu	Arg	Arg
305					310					315					320
Gly	Asp	Glu	Arg	Val	Asp	Gln	Gly	Gln	Ala	Asp	Arg	Gly	Ala	Pro	Val
				325					330					335	
Ala	Gly	Val	Glu	Pro	Phe	Val	Ala	Leu	Asp	Arg	Ala	Gly	Val	Asp	Pro
			340					345					350		
Gly	Glu	Ala	Val	Glu	His	Leu	Leu	Thr	Asp	Gly	Gly	Pro	Glu	Leu	Gly
		355					360					365			
Ala	Val	Gly	Glu	Leu	Pro	Gln	Val	Ala	Cys	Glu	Arg	Gly	Ala	Pro	Val
	370					375					380				
Gly	Gly	Pro	Ala	Arg	Ala	Asp	Ala	Asp	Gly	Gly	Gly	Gly	Gly	Glu	Thr
385					390					395					400
Pro	Glu	Val	Ala	Gln	Val	Gly	Cys	Leu	Ser	His	Gly	Gly	Leu	Ser	Gly
				405					410					415	
Gly	Gly	Leu	Arg	Asp	Ala	Gly	Cys	Gly	Leu	His	Leu	Gly	Gly	Glu	Leu
			420					425					430		
Trp	Val	Leu	Gly	Leu	Glu	Arg	Gln	Leu	Pro	Gly	Pro	Val	Pro	Ala	Gly
		435					440					445			
Phe	Gly	Pro	Gly	Val	Gly	Asp	Val	Leu	Cys	Cys	Ala	Ala	Thr	Ala	Thr
	450					455					460				
Asp	Gly	Gly	Arg	Arg	Asp	Arg	Gly	Ala	His	Ala	Ser	Pro	Thr	Ala	Gly
465					470					475					480
Gly	Lys	Val	Val	Leu	Glu	Ser	Gly	Val	Gly	Arg	Leu	Glu	Ala	Gly	His
				485					490					495	
Val	Leu	Gly	Gln	Val	Pro	Leu	Asp	Ser	Pro	Leu	Gln	Glu	Gly	Glu	Ala
			500					505					510		
Gly	Phe	Gly	Leu	Pro	Asp	Ala	Ala	Thr	Lys	Asp	Gly	Val	Gln	Leu	Leu
		515				520						525			
Arg	Ser	Asp	His	Ala	Gly	Arg	Met	Glu	Asp	Gly	Gln	Gly	Gly	Arg	Leu
	530					535					540				
Glu	Pro	Phe	Ala	Leu	Leu	Ala	Phe	Leu	Leu	Gly	Leu	Asp	Leu	Cys	Leu
545					550					555					560

## 261089ST25.txt

Glu Arg Gly His Leu Gly Leu Glu Gly Arg His Gly Leu Leu Gly Arg  
 565 570 575  
 Leu Pro Lys Gly Leu Val Leu Leu Leu Val Leu Glu Leu Gly Leu Gly  
 580 585 590  
 Leu Leu Pro Lys Leu Ala Leu Gln Val Gly Gln Ala Leu Val Glu Leu  
 595 600 605  
 Gly Val Gly Leu Ala Gln Ala Leu Leu Val Leu Phe Asp Gln Val Glu  
 610 615 620  
 Leu Gly Lys Gly Arg Arg Gln Leu Leu Gly Asp Val Ala Ala Gly Arg  
 625 630 635 640  
 His Trp Arg Ser Gly Val Cys Leu Arg Arg Arg Leu Arg His Trp Arg  
 645 650 655  
 Gly Arg Gly Leu Arg Cys His Ser Gly Ala Asp Ser Arg Thr Glu Ser  
 660 665 670  
 Ala Tyr Glu Ala Ser Pro Trp Pro Tyr Ser Trp Ile Cys Arg Arg Pro  
 675 680 685  
 Cys Arg Trp Gly Ala Pro Arg Ala Pro Arg Pro Arg Arg Thr Gly Pro  
 690 695 700  
 Gly Arg Gly Pro Arg Gly Arg Ala Pro Arg Phe Asp Trp Gln Ala Ser  
 705 710 715 720  
 Gly Leu Val Lys Val Leu Thr Pro Ala Cys Tyr Arg Cys Pro Ala Gly  
 725 730 735  
 Pro Cys Arg Arg Ser Pro Ser Pro Arg Ser Ala Ser Pro Gln Gln Arg  
 740 745 750  
 Pro Thr Pro Ser Gly Pro Gly Trp Gln Pro Ser Pro Arg Thr Gly Pro  
 755 760 765  
 Pro His Arg Gly Arg Trp Pro Val Trp Pro Trp Arg Pro Gly Ser Ala  
 770 775 780

&lt;210&gt; 306

&lt;211&gt; 316

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 24751 right: 25698 frame: -2 size(aa): 316

&lt;400&gt; 306

Ala Met Val Ala Ser Gln Val Val Val Tyr Val Thr Pro Ala Ala Ala  
 1 5 10 15  
 Phe Ile Trp Ala Ala Ser Ser Gly Phe Leu Ala Trp Ser Ala Ser Cys  
 20 25 30  
 Pro Val Arg Phe Gln Pro Ala Leu Val Gln Gly Leu Glu Thr Ser Ser  
 35 40 45  
 Ala Ala Leu Pro Pro Pro Pro Thr Gly Ala Ala Glu Thr Gly Val Pro  
 50 55 60  
 Met Pro Arg Pro Pro Leu Gly Ala Lys Trp Cys Ser Asn Pro Glu Leu  
 65 70 75 80



261089ST25.txt

Gly Ala Leu Arg Leu<sub>85</sub> Ala Thr Tyr Trp Ala<sub>90</sub> Arg Ser Arg Ser Thr Pro  
Pro Cys Arg Lys<sub>100</sub> Ala Arg Pro Asp Ser<sub>105</sub> Val Cys Arg Met Pro<sub>110</sub> Pro Pro  
Arg Met Val<sub>115</sub> Tyr Ser Cys Ser Gly<sub>120</sub> Ala Thr Thr Pro Ala<sub>125</sub> Glu Trp Lys  
Thr Ala<sub>130</sub> Arg Ala Asp Asp Leu<sub>135</sub> Ser Arg Ser Arg Cys<sub>140</sub> Trp Pro Ser Phe  
Ser Val Ser Ile Cys Val<sub>150</sub> Leu Ser Val Ala Thr<sub>155</sub> Ser Val Ser Arg Val<sub>160</sub>  
Ala Thr Val Cys Leu<sub>165</sub> Ala Ala Ser Gln Arg<sub>170</sub> Ala Leu Tyr Cys Cys<sub>175</sub> Trp  
Ser Ser Ser Leu<sub>180</sub> Ala Ser Val Cys Ser<sub>185</sub> Arg Ser Trp Arg Ser Arg Ser  
Val Arg Arg Trp Leu Ser Ser Val<sub>200</sub> Leu Val Trp Pro Arg<sub>205</sub> Arg Cys Leu  
Ser Cys<sub>210</sub> Leu Thr Arg Ser Ser<sub>215</sub> Leu Ala Arg Ala Ala<sub>220</sub> Asp Ser Cys Trp  
Ala Thr Ser Pro Leu Gly<sub>230</sub> Ala Thr Gly Ala Ala<sub>235</sub> Gly Ser Ala Ser Gly<sub>240</sub>  
Val Gly Ser Ala Thr<sub>245</sub> Gly Gly Val Gly Val<sub>250</sub> Cys Ala Ala Ile Arg<sub>255</sub> Gly  
Leu Ile Arg Gly<sub>260</sub> Arg Ser Gln Arg Thr<sub>265</sub> Arg Leu Arg Leu Gly<sub>270</sub> Leu Thr  
Leu Gly Phe<sub>275</sub> Ala Gly Gly Leu Ala<sub>280</sub> Gly Gly Gly Arg Leu<sub>285</sub> Gly Arg His  
Val Leu Gly Val Pro Ala Gln<sub>295</sub> Val Gly Ala Pro Gly<sub>300</sub> Ala Gly His Pro  
Asp Leu Ile Gly Arg His<sub>310</sub> Arg Ala Ser Ser Arg<sub>315</sub> Phe

<210> 307

<211> 53

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 24752 right: 24910 frame: 3 size(aa): 53

<400> 307

Asn Leu Asp Glu Ala Arg Cys Leu Pro Ile<sub>10</sub> Lys Ser Gly Cys Pro Ala<sub>15</sub>

Pro Gly Ala Pro Thr Trp Ala Gly Thr<sub>25</sub> Pro Arg Thr Trp Arg Pro Arg<sub>30</sub>

Arg Pro Pro<sub>35</sub> Pro Ala Arg Pro Pro<sub>40</sub> Ala Asn Pro Arg Val<sub>45</sub> Arg Pro Arg

Arg Ser Leu Val Arg

50

<210> 308  
 <211> 74  
 <212> PRT  
 <213> Cyanophage S-2L  
  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 24760 right: 24981 frame: 2 size(aa): 74

&lt;400&gt; 308

Arg Gly Pro Met Pro Ala Asn Gln Ile Trp Val Pro Gly Pro Trp Gly  
 1 5 10 15  
 Pro Asp Leu Gly Arg Tyr Ala Glu Asp Val Ala Pro Glu Ala Pro Pro  
 20 25 30  
 Thr Gly Lys Ala Ala Gly Lys Ser Lys Ser Lys Ala Lys Ala Lys Pro  
 35 40 45  
 Arg Thr Leu Thr Pro Ser Ala Asn Gln Pro Pro Asn Gly Ser Ala Asn  
 50 55 60  
 Pro Asp Pro Ala Ser Gly Gly Ala Asp Ala  
 65 70

<210> 309  
 <211> 77  
 <212> PRT  
 <213> Cyanophage S-2L  
  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 24888 right: 25118 frame: 1 size(aa): 77

&lt;400&gt; 309

Gly Gln Gly Glu Ala Ser Tyr Ala Asp Ser Val Arg Glu Ser Ala Pro  
 1 5 10 15  
 Glu Trp Gln Arg Lys Pro Arg Pro Arg Gln Trp Arg Ser Arg Arg Leu  
 20 25 30  
 Arg Gln Thr Pro Leu Arg Gln Trp Arg Pro Ala Ala Thr Ser Pro Ser  
 35 40 45  
 Ser Cys Leu Arg Pro Leu Pro Ser Ser Thr Trp Ser Asn Arg Thr Ser  
 50 55 60  
 Ser Ala Trp Ala Arg Pro Thr Pro Ser Ser Thr Asn Ala  
 65 70 75

<210> 310  
 <211> 252  
 <212> PRT  
 <213> Cyanophage S-2L  
  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 24914 right: 25669 frame: 3 size(aa): 252

&lt;400&gt; 310

261089ST25.txt

Leu Arg Pro Arg Ile Ser Pro Arg Met Ala Ala Gln Thr Pro Thr Pro  
 1 5 10 15  
 Pro Val Ala Glu Pro Thr Pro Glu Ala Asp Pro Ala Ala Pro Val Ala  
 20 25 30  
 Pro Ser Gly Asp Val Ala Gln Gln Leu Ser Ala Ala Leu Ala Lys Leu  
 35 40 45  
 Asp Leu Val Lys Gln Asp Lys Gln Arg Leu Gly Gln Thr Asn Thr Glu  
 50 55 60  
 Leu Asn Gln Arg Leu Thr Asp Leu Glu Arg Gln Leu Arg Glu Gln Thr  
 65 70 75 80  
 Glu Ala Lys Leu Glu Asp Gln Gln Gln Tyr Lys Ala Leu Trp Glu Ala  
 85 90 95  
 Ala Lys Gln Thr Val Ala Thr Leu Glu Thr Glu Val Ala Thr Leu Lys  
 100 105 110  
 Thr Gln Ile Glu Thr Glu Lys Glu Gly Gln Gln Arg Glu Arg Leu Lys  
 115 120 125  
 Ser Ser Ala Leu Ala Val Phe His Ser Ala Gly Val Val Ala Pro Glu  
 130 135 140  
 Gln Leu Tyr Thr Ile Leu Gly Gly Gly Ile Arg Gln Thr Glu Ser Gly  
 145 150 155 160  
 Leu Ala Phe Leu Gln Gly Gly Val Glu Arg Asp Leu Ala Gln Tyr Val  
 165 170 175  
 Ala Ser Leu Lys Ala Pro Asn Ser Gly Phe Glu His His Phe Ala Pro  
 180 185 190  
 Ser Gly Gly Arg Gly Met Gly Thr Pro Val Ser Ala Ala Pro Val Gly  
 195 200 205  
 Gly Gly Gly Ser Ala Ala Glu Asp Val Ser Asn Pro Trp Thr Lys Ala  
 210 215 220  
 Gly Trp Asn Arg Thr Gly Gln Leu Ala Leu Gln Ala Lys Asn Pro Glu  
 225 230 235 240  
 Leu Ala Ala Gln Met Lys Ala Ala Ala Gly Val Thr  
 245 250

<210> 311  
 <211> 287  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 24985 right: 25845 frame: 2 size(aa): 287

<400> 311

Gly Arg Pro Arg Cys Ala Ser Gly Ala Gln Arg Arg Arg Arg Pro Ala  
 1 5 10 15  
 Ala Val Cys Gly Pro Cys Gln Ala Arg Pro Gly Gln Thr Gly Gln Ala  
 20 25 30  
 Ala Pro Gly Pro Asp Gln His Arg Ala Gln Pro Thr Pro Asp Arg Pro  
 35 40 45

261089ST25.txt

Gly Ala Pro Ala Ser Gly Ala Asp Arg Gly Gln Ala Arg Gly Pro Ala  
50 55 60  
Ala Val Gln Gly Pro Leu Gly Gly Gly Gln Ala Asp Arg Gly Asp Pro  
65 70 75 80  
Arg Asp Arg Gly Gly His Ala Gln Asp Thr Asp Arg Asp Arg Glu Gly  
85 90 95  
Arg Pro Thr Ala Arg Thr Ala Gln Val Val Arg Pro Gly Arg Leu Pro  
100 105 110  
Phe Cys Arg Arg Gly Arg Ser Gly Ala Ala Val His His Pro Trp Trp  
115 120 125  
Arg His Pro Ala Asp Arg Ile Arg Pro Arg Leu Pro Ala Gly Gly Ser  
130 135 140  
Arg Ala Gly Pro Gly Pro Val Arg Gly Gln Pro Gln Gly Ala Gln Leu  
145 150 155 160  
Arg Ile Arg Ala Pro Leu Cys Pro Gln Arg Trp Ala Arg His Gly His  
165 170 175  
Pro Gly Leu Cys Gly Pro Arg Arg Trp Arg Trp Gln Arg Ser Arg Gly  
180 185 190  
Arg Leu Gln Pro Leu Asp Gln Ser Arg Leu Glu Pro Asp Arg Ala Thr  
195 200 205  
Gly Ala Pro Gly Gln Glu Pro Arg Ala Arg Arg Pro Asp Glu Gly Arg  
210 215 220  
Ser Arg Arg His Val Asn His His Leu Arg Gly His His Gly Ser Ser  
225 230 235 240  
Ser Pro Pro Gly Gln Leu Arg Gly Phe His His Pro His Pro Arg Arg  
245 250 255  
His Arg Leu Glu Arg Val Pro Gln Leu Gly His His Val Arg Arg Arg  
260 265 270  
Pro Gly Gly Ala Arg Gln Pro Pro Arg Val Arg Gly Arg His Pro  
275 280 285

<210> 312

<211> 175

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 25122 right: 25646 frame: 1 size(aa): 175

<400> 312

Pro Thr Trp Ser Ala Ser Phe Gly Ser Arg Pro Arg Pro Ser Ser Arg  
1 5 10 15  
Thr Ser Ser Ser Thr Arg Pro Phe Gly Arg Arg Pro Ser Arg Pro Trp  
20 25 30  
Arg Pro Ser Arg Pro Arg Trp Pro Arg Ser Arg His Arg Ser Arg Pro  
35 40 45  
Arg Arg Lys Ala Asn Ser Ala Asn Gly Ser Ser Arg Pro Pro Trp Pro  
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## 261089ST25.txt

50 55 60

Ser Ser Ile Leu Pro Ala Trp Ser Leu Arg Ser Ser Cys Thr Pro Ser  
65 70 75 80

Leu Val Ala Ala Ser Gly Arg Pro Asn Pro Ala Ser Pro Ser Cys Arg  
85 90 95

Gly Glu Ser Ser Gly Thr Trp Pro Ser Thr Trp Pro Ala Ser Arg Arg  
100 105 110

Pro Thr Pro Asp Ser Ser Thr Thr Leu Pro Pro Ala Val Gly Glu Ala  
115 120 125

Trp Ala Pro Arg Ser Leu Arg Pro Pro Ser Val Ala Val Ala Ala Gln  
130 135 140

Gln Arg Thr Ser Pro Thr Pro Gly Pro Lys Pro Ala Gly Thr Gly Pro  
145 150 155 160

Gly Asn Trp Arg Ser Arg Pro Arg Thr Gln Ser Ser Pro Pro Arg  
165 170 175

<210> 313  
<211> 51  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> New ORF = left: 25296 right: 25448 frame: -1 size(aa): 51

<400> 313

Gly Trp Pro Arg Thr Gly Pro Gly Pro Ala Arg Leu Pro Pro Ala Gly  
1 5 10 15

Arg Arg Gly Arg Ile Arg Ser Ala Gly Cys Arg His Gln Gly Trp Cys  
20 25 30

Thr Ala Ala Pro Glu Arg Pro Arg Arg Gln Asn Gly Arg Arg Pro Gly  
35 40 45

Arg Thr Thr  
50

<210> 314  
<211> 71  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> New ORF = left: 25452 right: 25664 frame: -1 size(aa): 71

<400> 314

Arg Arg Leu Arg Pro Ser Ser Gly Arg Arg Ala Leu Gly Ser Trp Pro  
1 5 10 15

Gly Ala Pro Val Ala Arg Ser Gly Ser Ser Arg Leu Trp Ser Arg Gly  
20 25 30

Trp Arg Arg Pro Leu Leu Arg Cys His Arg His Arg Arg Gly Pro Gln  
35 40 45

261089ST25.txt

Arg Pro Gly Cys Pro Cys Leu Ala His Arg Trp Gly Gln Ser Gly Ala  
50 55 60

Arg Ile Arg Ser Trp Ala Pro  
65 70

<210> 315

<211> 99

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 25650 right: 25946 frame: 1 size(aa): 99

<400> 315

Arg Pro Gln Pro Ala Ser Arg Lys Pro Pro Pro Glu Arg Pro Pro Trp  
1 5 10 15

Leu Lys Gln Pro Thr Trp Ala Thr Ser Gly Val Ser Pro Pro Pro  
20 25 30

Pro Ser Ala Ser Ala Arg Ala Gly Pro Pro Thr Gly Ala Pro Arg Ser  
35 40 45

Gln Ala Thr Trp Gly Ser Ser Pro Thr Ala Pro Ser Ser Gly Pro Pro  
50 55 60

Ser Val Arg Arg Cys Ser Thr Ala Ser Pro Gly Ser Thr Pro Ala Arg  
65 70 75 80

Ser Ser Ala Thr Asn Gly Ser Thr Pro Ala Thr Gly Ala Pro Arg Ser  
85 90 95

Ala Cys Pro

<210> 316

<211> 385

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 25685 right: 26839 frame: 3 size(aa): 385

<400> 316

Glu Ala Thr Met Ala Gln Ala Ala His Leu Gly Asn Phe Gly Gly Phe  
1 5 10 15

Thr Thr Pro Thr Pro Val Gly Ile Gly Ser Ser Gly Ser Pro Asn Trp  
20 25 30

Gly Thr Thr Phe Ala Gly Asp Leu Gly Glu Leu Ala Asn Arg Pro Glu  
35 40 45

Phe Gly Ala Ala Ile Arg Glu Glu Val Phe Asn Ser Phe Ala Trp Ile  
50 55 60

Asn Ser Gly Ala Ile Gln Arg Asp Glu Arg Leu Asp Ala Arg Asn Arg  
65 70 75 80

Gly Ala Ser Ile Ser Leu Pro Leu Ile Asn Pro Phe Ile Pro Thr Ser  
85 90 95

261089ST25.txt

Glu Thr Ile Lys Ser Asn Ser Thr Trp Gly Ala Ser Gly Lys Gly Tyr  
 100 105 110  
 Leu Thr Pro Gln Lys Leu Asn Ala Gly Asp Trp Lys Leu Pro Ile Val  
 115 120 125  
 His Arg Gly Phe Ala Ala Gly Ala Asp Glu Leu Ser Glu Ile Ile Thr  
 130 135 140  
 Gly Ile Asp Pro Met Ala Ala Leu Glu Ser Tyr Ile Val Ala Gly Ala  
 145 150 155 160  
 Gln Arg Leu Glu Thr Gln Arg Ala Leu Ala Thr Met Glu Gly Ala Leu  
 165 170 175  
 Arg Gly Pro Leu Ser Thr Thr His Val Val Asp Ile Ser Arg Thr Gly  
 180 185 190  
 Thr Gly Pro Ser Asp Ala Asp Asn Phe Leu Ser Ser Ser Val Met Leu  
 195 200 205  
 Arg Gly Lys Ala Arg Leu Gly Glu Arg Gly Ser Met Leu Gln Ile Ala  
 210 215 220  
 Ala Met His Ser Asp Leu Ala His Tyr Leu Glu Ser Val Gly Met Leu  
 225 230 235 240  
 Thr Phe Ser Ser Asp Ser Leu Thr Ala Gly Gly Glu Ile Lys Trp Gly  
 245 250 255  
 Gly Gly Gly Ile Gly Val Thr Gln Ala Arg Val Ala Asp Met Ala Gly  
 260 265 270  
 Phe Arg Val Ile Val Asp Asp Leu Leu Ala Pro Thr Ile Asp Ala Thr  
 275 280 285  
 Asn Gly Asp Lys Tyr Pro Val Tyr Leu Met Ala Asn Gly Ala Ile Arg  
 290 295 300  
 Gln Gly Ile Gln Arg Asp Phe Arg Val Arg Tyr Gly Glu Asn Ile Leu  
 305 310 315 320  
 Ser Phe Gln Glu Val Leu Ala Ala Asp Trp His Gly Ser Met Gly Val  
 325 330 335  
 Leu Gly Ile Ser Tyr Glu Ser Asn Ala Pro Asp Asn Pro Glu Asp Ala  
 340 345 350  
 Asp Leu Ile Asp Pro Asp Ser Trp Glu Leu Val Tyr Thr Glu Pro Arg  
 355 360 365  
 Leu Val Pro Ile Val Lys Leu Val Cys Asn Ser Pro Phe Ala Val Asn  
 370 375 380

Pro  
385

<210> 317  
 <211> 105  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 25702 right: 26016 frame: -2 size(aa): 105

## 261089ST25.txt

&lt;400&gt; 317

Pro Leu Pro Leu Ala Pro Gln Val Leu Leu Leu Leu Ile Val Ser Asp  
 1 5 10 15  
 Val Gly Met Asn Gly Leu Ile Arg Gly Arg Leu Ile Glu Ala Pro Arg  
 20 25 30  
 Leu Arg Ala Ser Ser Arg Ser Ser Arg Trp Ile Ala Pro Glu Leu Ile  
 35 40 45  
 Gln Ala Lys Leu Leu Asn Thr Ser Ser Arg Met Ala Ala Pro Asn Ser  
 50 55 60  
 Gly Arg Leu Ala Ser Ser Pro Arg Ser Pro Ala Asn Val Val Pro Gln  
 65 70 75 80  
 Leu Gly Asp Pro Leu Glu Pro Met Pro Thr Gly Val Gly Val Val Lys  
 85 90 95  
 Pro Pro Lys Leu Pro Arg Trp Ala Ala  
 100 105

&lt;210&gt; 318

&lt;211&gt; 131

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 25849 right: 26241 frame: 2 size(aa): 131

&lt;400&gt; 318

Gly Gly Val Gln Gln Leu Arg Leu Asp Gln Leu Arg Arg Asp Pro Ala  
 1 5 10 15  
 Arg Arg Thr Ala Arg Arg Pro Gln Pro Gly Arg Leu Asp Gln Pro Ala  
 20 25 30  
 Pro Asp Gln Pro Val His Pro His Val Gly Asp Asp Gln Glu Gln Gln  
 35 40 45  
 His Leu Gly Arg Gln Arg Gln Arg Leu Pro Asp Pro Pro Glu Ala Gln  
 50 55 60  
 Arg Arg Gly Leu Glu Thr Pro His Arg Ala Pro Gly Leu Arg Cys Arg  
 65 70 75 80  
 Arg Arg Arg Ala Leu Arg Asp His His Arg His Arg Pro Asp Gly Gly  
 85 90 95  
 Pro Arg Val Leu His Arg Arg Arg Gly Pro Ala Pro Arg Asp Ala Thr  
 100 105 110  
 Gly Pro Gly His His Gly Gly Arg Pro Pro Gly Pro Pro Val His His  
 115 120 125  
 Pro Arg Gly  
 130

&lt;210&gt; 319

&lt;211&gt; 88

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;



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<221> misc\_feature  
<223> New ORF = left: 26025 right: 26288 frame: 1 size(aa): 88

<400> 319

Pro Pro Arg Ser Ser Thr Pro Gly Thr Gly Asn Ser Pro Ser Cys Thr  
1 5 10 15  
Gly Ala Ser Leu Pro Ala Pro Thr Ser Ser Pro Arg Ser Ser Pro Ala  
20 25 30  
Ser Thr Arg Trp Arg Pro Ser Ser Pro Thr Ser Ser Pro Gly Pro Ser  
35 40 45  
Ala Ser Arg Arg Asn Gly Pro Trp Pro Pro Trp Arg Ala Pro Ser Gly  
50 55 60  
Ala Pro Cys Pro Pro Pro Thr Trp Leu Thr Ser Ala Gly Pro Ala Pro  
65 70 75 80  
Ala Arg Ala Thr Arg Thr Thr Ser  
85

<210> 320  
<211> 77  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> New ORF = left: 26149 right: 26379 frame: -2 size(aa): 77

<400> 320

Cys Ala Arg Ser Leu Cys Met Ala Ala Ile Trp Ser Met Glu Pro Arg  
1 5 10 15  
Ser Pro Ser Arg Ala Leu Pro Arg Ser Ile Thr Glu Glu Leu Arg Lys  
20 25 30  
Leu Ser Ala Ser Leu Gly Pro Val Pro Val Arg Leu Met Ser Thr Thr  
35 40 45  
Trp Val Val Asp Arg Gly Pro Arg Arg Ala Pro Ser Met Val Ala Arg  
50 55 60  
Ala Arg Cys Val Ser Arg Arg Trp Ala Pro Ala Thr Met  
65 70 75

<210> 321  
<211> 53  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> New ORF = left: 26250 right: 26408 frame: -1 size(aa): 53

<400> 321

Arg Ser Ala Ser Arg Arg Thr Pro Gly Ser Ala Gln Asp Arg Cys Ala  
1 5 10 15  
Trp Pro Arg Ser Gly Ala Trp Ser Pro Ala His Arg Ala Gly Pro Tyr  
20 25 30

261089ST25.txt

Pro Gly Ala Ser Pro Lys Ser Ser Gly Ser Cys Pro Arg Arg Ser Gly  
35 40 45

Arg Cys Arg Ser Gly  
50

<210> 322

<211> 244

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 26332 right: 27063 frame: 2 size(aa): 244

<400> 322

Ala Gly Leu His Ala Pro Asp Arg Gly His Ala Gln Arg Ser Cys Ala  
1 5 10 15

Leu Pro Gly Val Arg Arg Asp Ala Asp Leu Gln Leu Arg Gln Pro Asp  
20 25 30

Arg Arg Gly Arg Asp Gln Val Gly Arg Arg Arg His Arg Gly His Pro  
35 40 45

Gly Pro Arg Cys Arg His Gly Trp Leu Pro Cys His Arg Gly Arg Pro  
50 55 60

Ala Arg Pro Asp Asp Arg Arg His Gln Trp Gly Gln Val Pro Arg Leu  
65 70 75 80

Pro Asp Gly Gln Arg Arg His Pro Ala Gly His Pro Ala Arg Leu Pro  
85 90 95

Gly Ala Leu Arg Gly Glu His Pro Gln Leu Pro Gly Gly Ala Arg Arg  
100 105 110

Arg Leu Ala Arg Leu Asp Gly Gly Pro Arg Asp Leu Leu Arg Val Gln  
115 120 125

Arg Pro Gly Gln Pro Arg Gly Arg Arg Pro Asp Arg Ser Arg Gln Leu  
130 135 140

Gly Ala Arg Leu His Arg Ala Pro Pro Gly Ala Asp Arg Gln Ala Gly  
145 150 155 160

Leu Gln Phe Ala Val Arg Cys Gln Pro Leu Ser Pro Trp Gly Arg Met  
165 170 175

Ala Arg Pro Arg Asp Ala Val Ala Pro Asn Gly Arg Pro Arg Leu Pro  
180 185 190

Pro Arg Arg Arg Gly Leu Pro Met Leu Gly Arg Cys Cys Ala Pro Arg  
195 200 205

Trp Ser Ser Ser Pro Leu Thr Trp Pro Thr Pro Thr Pro Thr Trp Leu  
210 215 220

Trp Ala Pro Gly Ala Pro Ser Gly Trp Pro Ser Gly Thr Lys Pro Pro  
225 230 235 240

Gly Arg Trp Pro

<210> 323

<211> 62  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 26383 right: 26568 frame: -2 size(aa): 62

<400> 323

Thr Gly Tyr Leu Ser Pro Leu Val Ala Ser Ile Val Gly Ala Ser Arg  
 1 5 10 15  
 Ser Ser Thr Met Thr Arg Lys Pro Ala Met Ser Ala Thr Arg Ala Trp  
 20 25 30  
 Val Thr Pro Met Pro Pro Pro Pro His Leu Ile Ser Pro Ala Val  
 35 40 45  
 Arg Leu Ser Glu Leu Lys Val Ser Ile Pro Thr Asp Ser Arg  
 50 55 60

<210> 324  
 <211> 56  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 26577 right: 26744 frame: 1 size(aa): 56

<400> 324

Trp Pro Thr Ala Pro Ser Gly Arg Ala Ser Ser Ala Thr Ser Gly Cys  
 1 5 10 15  
 Ala Thr Gly Arg Thr Ser Ser Ala Ser Arg Arg Cys Ser Pro Pro Thr  
 20 25 30  
 Gly Thr Ala Arg Trp Gly Ser Ser Gly Ser Pro Thr Ser Pro Thr Pro  
 35 40 45  
 Arg Thr Thr Pro Arg Thr Pro Thr  
 50 55

<210> 325  
 <211> 52  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 26646 right: 26801 frame: -1 size(aa): 52

<400> 325

Arg Ser Ala Pro Gly Gly Ala Arg Cys Arg Arg Ala Pro Ser Cys Arg  
 1 5 10 15  
 Asp Arg Ser Gly Arg Arg Pro Arg Gly Cys Pro Gly Arg Trp Thr Arg  
 20 25 30  
 Arg Arg Ser Arg Gly Pro Pro Ser Ser Arg Ala Ser Arg Arg Arg Ala  
 35 40 45

Pro Pro Gly Ser  
50

<210> 326  
<211> 428  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> New ORF = left: 26776 right: 28059 frame: -2 size(aa): 428

<400> 326

Gly Arg Leu Leu Val Arg Cys Thr Ser Ser Pro Ala Thr Arg Arg Arg  
1 5 10 15  
Ala Ser Ala Ser Asp Cys Gly Val Leu Ala Pro Ser Gly Ala Thr Ser  
20 25 30  
Leu Glu Gly Arg Leu Leu Leu Ala Asn Gln Glu Glu Arg Asn Arg Pro  
35 40 45  
Val Ser Thr Gly Leu Thr Ala Ala Leu Pro Arg Ser Ala Trp Ala Trp  
50 55 60  
Thr Thr Val Arg Arg Ser Trp Ala Pro Arg Ala Ser Asp Arg Cys Phe  
65 70 75 80  
Leu Ser Ala Ser Gly Ser Leu Asn Val Gly Ile Leu Val Leu Thr Asn  
85 90 95  
Glu Leu Ala Gly Asp Gln Ala Leu Ala Gly Val Gly Gly Val Gly Phe  
100 105 110  
Cys Asp Ala Pro Asp Pro Ala Val Val Gly Asp Gly Val Pro Gly Gly  
115 120 125  
Trp Phe Val Arg Glu Ala Pro Gly Pro Met Val Asp Pro Glu Pro His  
130 135 140  
Leu Pro Gly Leu Leu Gly Ala Ala Pro Leu Ala Leu Ala Ile Ala Gln  
145 150 155 160  
His Pro Gly Ile Asp Arg Val Leu Asp Asp Val Pro Gly Glu His Pro  
165 170 175  
Arg Gly Arg Val Val Gly Leu Gly Leu Gly Pro Pro Val Gln Asp Arg  
180 185 190  
Arg Gly Glu Gly Pro Val Asp Gln Leu Gly Arg Asp Arg Gln Glu Gly  
195 200 205  
Gly Gly Asn Val His Thr Ala Arg Leu Leu Ser Cys Gly Pro Gly Ala  
210 215 220  
Gly Leu Trp Thr Cys Ser Ala Ala Ser Ile Pro Gly Ser Ser Arg Ser  
225 230 235 240  
Arg Gly Arg Pro Ala Ala Gly Gly Gly Arg Phe Gly Arg Ser Gly Ser  
245 250 255  
Ser Thr Arg Pro Ser Arg Arg Thr Thr Ala Gly Gly Arg Pro Gly Pro  
260 265 270  
Asp Ser Trp Pro Arg Ala Arg Pro Gly Cys Arg Arg Gly Pro Arg Leu  
275 280 285

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Gln Asn Arg Gly Val Gly Pro Gly Pro Pro Arg Arg Leu Pro Ser Pro  
 290 295 300  
 Ser Thr Arg Arg Met Ala Trp Arg Arg Arg Pro Ser Gly Gly Pro Gly  
 305 310 315 320  
 Ser Ala Ala Ser Gly Ala Ser Gly Thr Pro Arg Ser Gly Pro Pro Ala  
 325 330 335  
 Gly Arg Leu Arg Pro Arg Arg Pro Ala Arg Gly Gly Pro Gly Arg Pro  
 340 345 350  
 Glu Pro Cys Arg Arg Arg Arg Arg Pro Gly Gln Arg Gly Gly Ala Pro  
 355 360 365  
 Ser Gly Gly Thr Ala Pro Pro Gln His Arg Lys Ala Pro Pro Pro Gly  
 370 375 380  
 Trp Glu Thr Gly Pro Thr Val Gly Gly His Gly Val Pro Trp Pro Cys  
 385 390 395 400  
 His Pro Thr Pro Gly Ala Gln Gly Leu Thr Ala Asn Gly Glu Leu Gln  
 405 410 415  
 Thr Ser Leu Thr Ile Gly Thr Arg Arg Gly Ser Val  
 420 425

<210> 327  
 <211> 115  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 26835 right: 27179 frame: -1 size(aa): 115

<400> 327  
 Gly Gln Gly His Leu Gly Val Cys Arg His Pro Ala Leu Val Glu Trp  
 1 5 10 15  
 Pro Gly Ala Gly Val Arg Arg Ala Val Pro Asp Arg Gln Arg Leu Glu  
 20 25 30  
 Pro Ala Glu Arg Leu Gly Gln Gly His Leu Pro Gly Gly Phe Val Pro  
 35 40 45  
 Asp Gly Gln Pro Glu Gly Ala Pro Gly Ala Gln Ser His Val Gly Val  
 50 55 60  
 Gly Val Gly Gln Val Asn Gly Glu Glu Leu His Arg Gly Ala Gln His  
 65 70 75 80  
 Arg Pro Asn Ile Gly Arg Pro Arg Leu Arg Gly Gly Arg Arg Gly Arg  
 85 90 95  
 Pro Leu Gly Ala Thr Ala Ser Arg Gly Leu Ala Ile Leu Pro Gln Gly  
 100 105 110  
 Leu Arg Gly  
 115

<210> 328  
 <211> 183  
 <212> PRT  
 <213> Cyanophage S-2L

261089ST25.txt

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 26856 right: 27404 frame: 1 size(aa): 183

<400> 328

Asp Gly Lys Ala Thr Gly Arg Arg Gly Pro Gln Arg Ser Ala Pro Ser  
 1 5 10 15  
 Pro Thr Pro Glu Ala Gly Pro Ser Tyr Val Gly Ala Val Leu Cys Pro  
 20 25 30  
 Pro Met Glu Leu Leu Pro Val Asp Leu Ala Asp Ala Asp Ala Tyr Met  
 35 40 45  
 Ala Leu Gly Ala Arg Gly Pro Leu Trp Leu Ala Val Gly Asp Glu Ala  
 50 55 60  
 Ala Arg Gln Val Ala Leu Thr Glu Ala Phe Arg Trp Leu Gln Thr Leu  
 65 70 75 80  
 Pro Ile Arg Asp Arg Pro Thr Asp Ala Cys Ala Arg Pro Phe Asp Glu  
 85 90 95  
 Cys Trp Val Thr Ala Asn Ala Glu Val Ala Leu Ala Leu His Arg Asp  
 100 105 110  
 Ser Ala Ala Val Val Pro Ala Gly Ser Gln Ala Gly Pro Val Ala Lys  
 115 120 125  
 Ser Gln Ala Leu Gly Ala Leu Gln Gln Ser Phe Phe Ser Met Ala Glu  
 130 135 140  
 Trp Lys Thr Arg Tyr Asp Gln Asn Asp His Pro Leu Leu Arg Ala Phe  
 145 150 155 160  
 Pro Trp Ile Tyr Ser Ile Leu Gly Cys Trp Leu Pro Ser Lys Ser Lys  
 165 170 175  
 Val Leu His Arg Val Arg Ser  
 180

<210> 329  
 <211> 162  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 26975 right: 27460 frame: 3 size(aa): 162

<400> 329

Pro Gly Arg Arg Arg Arg Leu His Gly Ser Gly Arg Pro Gly Pro Pro  
 1 5 10 15  
 Leu Ala Gly Arg Arg Gly Arg Ser Arg Pro Ala Gly Gly Pro Asp Arg  
 20 25 30  
 Gly Val Pro Leu Ala Pro Asp Ala Ala Asp Pro Gly Pro Asp Gly  
 35 40 45  
 Arg Leu Arg Gln Ala Ile Arg Arg Val Leu Gly Asp Gly Lys Arg Arg  
 50 55 60

261089ST25.txt

Gly Gly Pro Gly Pro Thr Pro Arg Phe Cys Ser Arg Gly Pro Arg Arg  
65 70 75 80  
Gln Pro Gly Arg Ala Arg Gly Gln Glu Ser Gly Pro Gly Arg Pro Pro  
85 90 95  
Ala Val Val Leu Leu Asp Gly Arg Val Glu Asp Pro Leu Arg Pro Lys  
100 105 110  
Arg Pro Pro Pro Ala Ala Gly Leu Pro Leu Asp Leu Leu Asp Pro Gly  
115 120 125  
Met Leu Ala Ala Glu Gln Val Gln Ser Pro Ala Pro Gly Pro Gln Leu  
130 135 140  
Ser Ser Leu Ala Val Trp Thr Leu Pro Pro Pro Ser Cys Leu Ser Arg  
145 150 155 160  
Pro Ser

<210> 330  
<211> 82  
<212> PRT  
<213> Cyanophage S-2L  
<220>  
<221> misc\_feature  
<223> New ORF = left: 26996 right: 27241 frame: -3 size(aa): 82

<400> 330  
Leu Leu Ala Thr Gly Pro Ala Trp Leu Pro Ala Gly Thr Thr Ala Ala  
1 5 10 15  
Glu Ser Arg Cys Arg Ala Arg Ala Thr Ser Ala Phe Ala Val Thr Gln  
20 25 30  
His Ser Ser Asn Gly Leu Ala Gln Ala Ser Val Gly Arg Ser Arg Ile  
35 40 45  
Gly Ser Val Trp Ser Gln Arg Asn Ala Ser Val Arg Ala Thr Cys Arg  
50 55 60  
Ala Ala Ser Ser Pro Thr Ala Ser Gln Arg Gly Pro Arg Ala Pro Arg  
65 70 75 80  
Ala Met

<210> 331  
<211> 85  
<212> PRT  
<213> Cyanophage S-2L  
<220>  
<221> misc\_feature  
<223> New ORF = left: 27154 right: 27408 frame: 2 size(aa): 85

<400> 331  
Arg Gln Thr Pro Arg Trp Pro Trp Pro Tyr Thr Ala Ile Leu Gln Pro  
1 5 10 15  
Trp Ser Pro Pro Ala Ala Arg Pro Gly Pro Trp Pro Arg Val Arg Pro  
20 25 30

## 261089ST25.txt

Trp Ala Pro Ser Ser Ser Arg Ser Ser Arg Trp Pro Ser Gly Arg Pro  
35 40 45

Ala Thr Thr Lys Thr Thr Thr Pro Cys Cys Gly Pro Ser Pro Gly Ser  
50 55 60

Thr Arg Ser Trp Asp Ala Gly Cys Arg Ala Ser Pro Lys Ser Cys Thr  
65 70 75 80

Gly Ser Ala Ala Glu  
85

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<210> 332
<211> 111
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 27183 right: 27515 frame: -1 size(aa): 111
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<400> 332
Asp Ser Val Trp Ala Arg Arg Tyr Arg Ile Gly Val Gly Lys Val Leu
1      5      10     15
Ser Ile Ser Trp Ala Ala Thr Gly Arg Lys Val Ala Val Thr Ser Ile
20     25     30
Pro Pro Gly Tyr Ser Ala Ala Asp Pro Val Gln Asp Phe Gly Leu Ala
35     40     45
Arg Gln Pro Ala Ser Gln Asp Arg Val Asp Pro Gly Glu Gly Pro Gln
50     55     60
Gln Gly Val Val Val Leu Val Val Ala Gly Leu Pro Leu Gly His Arg
65     70     75     80
Glu Glu Arg Leu Leu Glu Gly Ala Gln Gly Leu Thr Leu Gly His Gly
85     90     95
Pro Gly Leu Ala Ala Gly Gly Asp His Gly Cys Arg Ile Ala Val
100    105    110

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<210> 333
<211> 123
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 27408 right: 27776 frame: 1 size(aa): 123
```

<400> 333

Val Ala Trp Arg Tyr Gly Arg Tyr Arg His Leu Pro Ala Cys Arg Gly  
1 5 10 15

Pro Ala Asp Arg Gln Asp Leu Pro His Ala Asp Pro Val Pro Ala Gly  
20 25 30

Pro Asp Arg Val Leu Arg Pro Gly His Gly Gly Ala His Pro Gly Arg  
35 40 45

Arg Arg Val Pro Asp Gln Cys Arg Gly Ala Gly Leu Ser Gln Glu Arg  
50 55 60 65 70 75 80 85 90 95

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50

55

60

Ala Glu Arg Arg Arg Gly Gly Pro Gly Gly Ala Ala Leu Asp Pro Pro  
 65 70 75 80

Trp Ala Arg Gly Pro Pro Gly Arg Thr Asn His Arg Gly His Arg Arg  
 85 90 95

Leu Arg Arg Arg Asp Leu Ala Arg His Arg Ser Arg Pro His Leu His  
 100 105 110

Gln Pro Gly Pro Asp Arg Gln Pro Thr Arg Leu  
 115 120

<210> 334

<211> 129

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 27412 right: 27798 frame: 2 size(aa): 129

<400> 334

Pro Gly Gly Met Asp Val Thr Ala Thr Phe Leu Pro Val Ala Ala Gln  
 1 5 10 15

Leu Ile Asp Arg Thr Phe Pro Thr Pro Ile Leu Tyr Arg Arg Ala Gln  
 20 25 30

Thr Glu Ser Tyr Asp Pro Ala Thr Gly Val Leu Thr Arg Asp Val Val  
 35 40 45

Glu Tyr Pro Ile Asn Ala Gly Val Leu Gly Tyr Arg Lys Ser Glu Arg  
 50 55 60

Ser Gly Ala Glu Glu Ala Arg Glu Val Arg Leu Trp Ile His His Gly  
 65 70 75 80

Pro Gly Gly Leu Pro Asp Glu Pro Thr Thr Gly Asp Thr Val Ala Tyr  
 85 90 95

Asp Gly Gly Ile Trp Arg Val Thr Glu Ala Asp Pro Thr Tyr Thr Ser  
 100 105 110

Gln Gly Leu Ile Ala Ser Gln Leu Val Cys Glu Tyr Gln Tyr Ala Asp  
 115 120 125

val

<210> 335

<211> 97

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 27464 right: 27754 frame: 3 size(aa): 97

<400> 335

Ser Thr Gly Pro Ser Pro Arg Arg Ser Cys Thr Gly Gly Pro Arg Pro  
 1 5 10 15

# 261089ST25.txt

Ser Pro Thr Thr Arg Pro Arg Gly Cys Ser Pro Gly Thr Ser Ser Ser  
 20 25 30  
 Thr Arg Ser Met Pro Gly Cys Trp Ala Ile Ala Arg Ala Ser Gly Ala  
 35 40 45  
 Ala Pro Arg Arg Pro Gly Arg Cys Gly Ser Gly Ser Thr Met Gly Pro  
 50 55 60  
 Gly Ala Ser Arg Thr Asn Gln Pro Pro Gly Thr Pro Ser Pro Thr Thr  
 65 70 75 80  
 Ala Gly Ser Gly Ala Ser Gln Lys Pro Thr Pro Pro Thr Pro Ala Arg  
 85 90 95

Ala

<210> 336  
 <211> 50  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 27569 right: 27718 frame: -3 size(aa): 50

<400> 336

Arg Ala Arg Ser Arg Arg Arg Arg Arg Arg Cys Pro Arg Trp Leu Val  
 1 5 10 15  
 Arg Pro Gly Gly Pro Arg Ala His Gly Gly Ser Arg Ala Ala Pro Pro  
 20 25 30  
 Gly Pro Pro Arg Arg Arg Ser Ala Arg Ser Cys Asp Ser Pro Ala Pro  
 35 40 45

Arg His  
 50

<210> 337  
 <211> 197  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 27722 right: 28312 frame: -3 size(aa): 197

<400> 337

Thr Gly Arg Arg Ala Gly Ser Gly Ala Ser Arg Arg Cys Cys Arg Arg  
 1 5 10 15  
 Arg Leu Thr Pro Gly Pro Leu Arg Arg Arg Arg Pro Arg Gly Trp  
 20 25 30  
 Arg Gly Trp Gly Arg Arg Thr Ser Gln Val Val Leu Leu Leu Asp Glu  
 35 40 45  
 Leu Ala Gly Gly Val Leu Asp Pro Gly Gln Pro Gly Leu Thr Glu Gly  
 50 55 60  
 Pro Glu Pro Gly Gly Gly Leu Arg His Asp Ser Ala Phe Asp Ser Asp  
 65 70 75 80

## 261089ST25.txt

Gly Phe Ser Val Gly Gln Thr Val Gly Gln Val His Leu Val Ala Gly  
                   85                  90                  95  
 His Gln Ala Gln Gly Leu Gly Val Gly Leu Arg Gly Ala Gly Ala Leu  
                   100                  105                  110  
 Arg Gly His Leu Ala Arg Gly Pro Ala Leu Ala Gly Glu Pro Gly Gly  
                   115                  120                  125  
 Ala Glu Pro Ala Gly Val Asp Gly Ala His Cys Gly Ala Pro Lys Val  
                   130                  135                  140  
 Gly Leu Gly Leu Asp Asp Gly Glu Ala Gln Leu Gly Ala Gln Gly Leu  
                   145                  150                  155                  160  
 Gly Gln Val Leu Leu Glu Arg Leu Gly Ile Val Lys Arg Arg His Thr  
                   165                  170                  175  
 Gly Thr His Lys Arg Val Gly Trp Arg Ser Gly Pro Gly Trp Cys Arg  
                   180                  185                  190  
 Trp Gly Arg Leu Leu  
                   195

<210> 338  
 <211> 145  
 <212> PRT  
 <213> Cyanophage S-2L  
  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 27758 right: 28192 frame: 3 size(aa): 145

<400> 338  
 Ser Pro Ala Asn Ser Phe Val Ser Thr Ser Met Pro Thr Phe Asn Asp  
 1                  5                  10                  15  
 Pro Glu Ala Leu Lys Lys His Leu Ser Glu Ala Leu Gly Ala Gln Leu  
                   20                  25                  30  
 Arg Leu Thr Val Val Gln Ala Gln Ala Asp Leu Gly Ser Ala Ala Val  
                   35                  40                  45  
 Ser Pro Val Asp Thr Gly Arg Phe Arg Ser Ser Trp Phe Ala Ser Lys  
                   50                  55                  60  
 Ser Arg Pro Ser Ser Glu Val Ala Pro Glu Gly Ala Ser Thr Pro Gln  
 65                  70                  75                  80  
 Ser Asp Ala Glu Ala Leu Arg Leu Val Ala Gly Asp Glu Val His Leu  
                   85                  90                  95  
 Thr Asn Ser Leu Pro Tyr Ala Glu Ala Val Ala Val Glu Gly Arg Val  
                   100                  105                  110  
 Val Ser Lys Pro Ala Thr Trp Phe Arg Ser Phe Arg Glu Ala Arg Leu  
                   115                  120                  125  
 Pro Arg Ile Gln Asp Ala Ala Gly Lys Leu Ile Lys Lys Gln Tyr Asp  
                   130                  135                  140  
 Leu  
 145

<210> 339

## 261089ST25.txt

<211> 88  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 27802 right: 28065 frame: 2 size(aa): 88

<400> 339

Arg Ser Arg Gly Ala Gln Glu Ala Pro Val Arg Gly Pro Gly Arg Pro  
 1 5 10 15  
 Ala Ala Pro His Arg Arg Pro Gly Pro Gly Arg Pro Trp Glu Arg Arg  
 20 25 30  
 Ser Glu Pro Arg Arg His Arg Pro Val Pro Leu Leu Leu Val Arg Gln  
 35 40 45  
 Gln Glu Pro Ala Leu Glu Arg Gly Gly Pro Gly Gly Arg Gln His Pro  
 50 55 60  
 Ala Ile Arg Arg Arg Gly Pro Ala Pro Gly Gly Arg Arg Arg Gly Ala  
 65 70 75 80  
 Pro Asp Gln Gln Ser Ala Leu Arg  
 85

<210> 340  
 <211> 103  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 27861 right: 28169 frame: -1 size(aa): 103

<400> 340

Ala Cys Arg Arg Arg Pro Gly Ser Trp Ala Thr Gly Pro His Gly Arg  
 1 5 10 15  
 Thr Gly Thr Arg Trp Arg Ala Ser Thr Arg Leu Gly Leu Arg Gln Arg  
 20 25 30  
 Arg Leu Gln Arg Arg Ala Asp Cys Trp Ser Gly Ala Pro Arg Arg Arg  
 35 40 45  
 Pro Pro Gly Ala Gly Pro Arg Arg Arg Ile Ala Gly Cys Trp Arg Pro  
 50 55 60  
 Pro Gly Pro Pro Arg Ser Arg Ala Gly Ser Cys Trp Arg Thr Arg Arg  
 65 70 75 80  
 Ser Gly Thr Gly Arg Cys Arg Arg Gly Ser Leu Arg Arg Ser Gln Gly  
 85 90 95  
 Arg Pro Gly Pro Gly Arg Arg  
 100

<210> 341  
 <211> 93  
 <212> PRT  
 <213> Cyanophage S-2L

<220>

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&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 28047 right: 28325 frame: 1 size(aa): 93

&lt;400&gt; 341

Pro Thr Val Cys Pro Thr Leu Lys Pro Ser Leu Ser Lys Ala Glu Ser  
1 5 10 15Cys Arg Ser Pro Pro Pro Gly Ser Gly Pro Ser Val Arg Pro Gly Cys  
20 25 30Pro Gly Ser Arg Thr Pro Pro Ala Ser Ser Ser Arg Ser Thr Thr  
35 40 45Cys Asp Val Leu Arg Pro His Pro Arg His Pro Arg Gly Arg Arg Arg  
50 55 60Arg Arg Ser Gly Pro Gly Val Ser Arg Leu Arg Gln His Leu Arg Asp  
65 70 75 80Ala Pro Glu Pro Ala Leu Arg Pro Val His Arg Gln Leu  
85 90

&lt;210&gt; 342

&lt;211&gt; 65

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 28063 right: 28257 frame: -2 size(aa): 65

&lt;400&gt; 342

His Arg Val His Cys Gly Gly Asp Val Ala Leu Glu Asp Gly Ala Asp  
1 5 10 15Gly Gly Glu Gly His His Arg Ser Tyr Cys Phe Leu Met Ser Leu Pro  
20 25 30Ala Ala Ser Trp Ile Leu Gly Asn Arg Ala Ser Arg Lys Asp Arg Asn  
35 40 45Gln Val Ala Gly Phe Asp Thr Thr Arg Pro Ser Thr Ala Thr Ala Ser  
50 55 60Ala  
65

&lt;210&gt; 343

&lt;211&gt; 161

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 28132 right: 28614 frame: 2 size(aa): 161

&lt;400&gt; 343

Gly Pro Val Ala Gln Asp Pro Gly Arg Arg Arg Gln Ala His Gln Glu  
1 5 10 15Ala Val Arg Pro Val Met Ser Phe Ala Pro Ile Arg Ala Ile Leu Glu  
20 25 30

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Gly Asp Val Ala Ala Ala Val Asp Pro Val Ser Val Val Phe Asp Asn  
35 40 45  
Thr Phe Glu Thr Pro Pro Ser Leu Pro Tyr Val Arg Phe Thr Val Ser  
50 55 60  
Phe Asp Ala Pro Thr Ser Asp Ala Ile Gly Gly Gly Met Ala Ser His  
65 70 75 80  
Val Thr Gly Val Val Gln Ala Asn Val Tyr Val Ala Lys Met Thr Gly  
85 90 95  
Ser Leu Gly Gly Glu Leu Leu Ala Ala Lys Ile Leu Asp Ala Trp Gln  
100 105 110  
Asp Leu Ala Ala Ala Ala Val Val Pro Pro Gly Trp Arg Val Val Pro  
115 120 125  
Arg Ser Leu Glu Gly Pro Gln Thr Leu Ala Pro Asp Lys Arg Glu Ala  
130 135 140  
His Val Val Val Val Gly Ala Ala Phe Ser Ala Thr Leu Tyr Glu Thr  
145 150 155 160

Pro

<210> 344  
<211> 59  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> New ORF = left: 28196 right: 28372 frame: 3 size(aa): 59

<400> 344

Cys Pro Ser Pro Pro Ser Ala Pro Ser Ser Arg Ala Thr Ser Pro Pro  
1 5 10 15  
Gln Trp Thr Arg Cys Gln Ser Ser Ser Thr Thr Pro Ser Arg Arg Pro  
20 25 30  
Arg Ala Cys Pro Thr Ser Gly Ser Pro Ser Ala Leu Thr Pro Arg Arg  
35 40 45  
Arg Thr Pro Ser Ala Ala Ala Trp Pro Pro Thr  
50 55

<210> 345  
<211> 123  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> New ORF = left: 28261 right: 28629 frame: -2 size(aa): 123

<400> 345

Arg Arg Pro Arg Leu Gly Arg Leu Val Glu Arg Arg Arg Glu Gly Gly  
1 5 10 15  
Pro Asp Asp His Asp Val Gly Leu Pro Leu Ile Arg Gly Gln Gly Leu  
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```

      20                               25                               30
Arg Pro Leu Gln Gly Thr Gly His Asp Ala Pro Pro Gly Gly His Asp
   35                               40                               45
Gly Cys Ser Gly Gln Val Leu Pro Gly Val Gln Asp Leu Gly Arg Gln
   50                               55                               60
Glu Leu Pro Ala Gln Ala Ala Cys His Leu Gly His Val Asp Val Gly
   65                               70                               75                               80
Leu His His Pro Gly His Val Gly Gly His Ala Ala Ala Asp Gly Val
   85                               90                               95
Arg Arg Arg Gly Val Lys Ala Asp Gly Glu Pro Asp Val Gly Gln Ala
  100                               105                               110
Arg Gly Arg Leu Glu Gly Val Val Glu Asp Asp
  115                               120

<210> 346
<211> 155
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 28322 right: 28786 frame: -3 size(aa): 155

<400> 346
Ser Trp Ser Ala Gly Thr Val Ile Ser Val Pro Ala Gly Lys Ser Val
  1                               5                               10                               15
Leu Ser Ser Arg Gln Cys Arg Val Ala Ala Gly Met Asn Ala Ala Asp
  20                               25                               30
Pro Ser Ile Pro Asp Arg Arg Val Phe Glu Gln Val Thr Gly Ile Trp
  35                               40                               45
Gly Leu Gly Val Thr Ser Ser Gln Ile Arg Ala Ser Arg Arg Ala Ser
  50                               55                               60
Pro Arg Arg Arg Pro Arg Arg Pro Arg Arg Gly Pro Pro Ala Tyr Pro
  65                               70                               75                               80
Gly Pro Gly Ser Ala Ala Pro Pro Gly Asn Gly Ala Arg Arg Ala Thr
  85                               90                               95
Arg Gly Ala Arg Arg Leu Gln Arg Pro Gly Pro Ala Arg Arg Pro Gly
  100                               105                               110
Ser Trp Pro Pro Gly Ala Pro Arg Pro Gly Cys Leu Ser Ser Trp Pro
  115                               120                               125
Arg Arg Arg Trp Pro Ala Pro Pro Arg Ser Arg Gly Arg Pro Cys Arg
  130                               135                               140
Arg Arg Trp Arg Pro Thr Ser Gly Arg Gln Ser
  145                               150                               155

<210> 347
<211> 74
<212> PRT
<213> Cyanophage S-2L

<220>

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<221> misc\_feature  
<223> New ORF = left: 28329 right: 28550 frame: 1 size(aa): 74

<400> 347

Arg Pro Asp Val Gly Arg His Arg Arg Arg His Gly Leu Pro Arg Asp  
1 5 10 15  
Arg Gly Gly Ala Gly Gln Arg Leu Arg Gly Gln Asp Asp Arg Gln Pro  
20 25 30  
Gly Arg Gly Ala Pro Gly Gly Gln Asp Pro Gly Arg Leu Ala Gly Pro  
35 40 45  
Gly Arg Cys Ser Arg Arg Ala Pro Arg Val Ala Arg Arg Ala Pro Phe  
50 55 60  
Pro Gly Gly Ala Ala Asp Pro Gly Pro Gly  
65 70

<210> 348  
<211> 67  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> New ORF = left: 28401 right: 28601 frame: -1 size(aa): 67

<400> 348

Ser Val Ala Glu Lys Ala Ala Pro Thr Thr Thr Thr Trp Ala Ser Arg  
1 5 10 15  
Leu Ser Gly Ala Arg Val Cys Gly Pro Ser Arg Glu Arg Gly Thr Thr  
20 25 30  
Arg His Pro Gly Gly Thr Thr Ala Ala Ala Ala Arg Ser Cys Gln Ala  
35 40 45  
Ser Arg Ile Leu Ala Ala Arg Ser Ser Pro Pro Arg Leu Pro Val Ile  
50 55 60  
Leu Ala Thr  
65

<210> 349  
<211> 74  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> New ORF = left: 28415 right: 28636 frame: 3 size(aa): 74

<400> 349

Gln Ala Ala Trp Ala Gly Ser Ser Trp Arg Pro Arg Ser Trp Thr Pro  
1 5 10 15  
Gly Arg Thr Trp Pro Leu Gln Pro Ser Cys Pro Pro Gly Gly Ala Ser  
20 25 30  
Cys Pro Val Pro Trp Arg Gly Arg Arg Pro Trp Pro Arg Ile Ser Gly  
35 40 45



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Arg Pro Thr Ser Trp Ser Ser Gly Pro Pro Ser Arg Arg Arg Ser Thr  
50 55 60

Arg Arg Pro Asn Leu Gly Arg Arg His Pro  
65 70

<210> 350

<211> 298

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 28554 right: 29447 frame: 1 size(aa): 298

<400> 350

Ala Gly Gly Pro Arg Arg Gly Arg Arg Gly Arg Leu Leu Gly Asp Ala  
1 5 10 15

Leu Arg Asp Ala Leu Ile Trp Asp Asp Val Thr Pro Arg Pro Gln Met  
20 25 30

Pro Val Thr Cys Ser Lys Thr Leu Leu Ser Gly Ile Asp Gly Ser Ala  
35 40 45

Ala Phe Ile Pro Ala Ala Thr Arg His Cys Leu Leu Asp Asn Thr Asp  
50 55 60

Phe Pro Ala Gly Thr Glu Ile Thr Val Pro Ala Asp His Asp Tyr Leu  
65 70 75 80

Val Gly Asp Pro Val Thr Phe Glu Ala Gln Gly Thr Ala Val Leu Asp  
85 90 95

Thr Ala Leu Thr Glu Gly Thr Thr Tyr Tyr Val Val Thr Glu Ala His  
100 105 110

Gly Ala Ser Pro His Ile Glu Val Ser Ala Thr Ala Gly Gly Ala Pro  
115 120 125

Ile Thr Leu Asn Gly Asp Gly Gly Thr Gly Thr Ala Asn Ser Gly Ala  
130 135 140

Pro Ala Gln Asn His Ile Lys Ile Gln Phe Ala Ala His Met Ala Leu  
145 150 155 160

Cys Gln Val Gln Gly Trp Asn Cys Asn Leu Ser Arg Glu Glu Val Met  
165 170 175

Thr Thr Ser Leu Gln Cys Gly Pro Thr Thr Asp Asn Gly Ala Asn Ala  
180 185 190

Pro Phe Met Thr Arg Gln Ala Gly Tyr Val Asp Gly Ser Gly Ser Met  
195 200 205

Val Val Arg Phe Thr Arg Asp Gln Glu Ser Leu Ser Arg Arg Leu Leu  
210 215 220

Arg Asn Ser Leu Arg Lys Asn Gln Asp Gly Ala Ser Val Gln Leu Phe  
225 230 235 240

Val Asp Thr Val Tyr Gly Pro Ser Gly Thr Ile Asp Leu Ala Gly Ser  
245 250 255

Glu Phe Ile Glu Gly Pro Val Ser Ile Leu Gly Phe Ala Leu Gly Val

260 265 270  
 Thr Thr Gly Ser Glu Pro Thr Gln Gly Thr Val Asn Phe Ser Phe Ser  
 275 280 285  
 Asp Gln Pro Thr Asn Ile Phe Gly Ala Leu  
 290 295  
 <210> 351  
 <211> 377  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 28617 right: 29747 frame: -1 size(aa): 377  
 <400> 351  
 Ser Ala Leu Thr Arg Ser Ala Thr Tyr Ser Ala Leu Thr Asp Arg Arg  
 1 5 10 15  
 Ser Trp Ala Arg Ser Pro Gly Ala Asn Arg Gly Trp Pro Leu Ala Ser  
 20 25 30  
 Phe Ala Leu Arg Ile Ser Arg Pro Arg Leu Thr Ser Ser Cys Ser Ser  
 35 40 45  
 Leu Leu Ala Phe Ser Ala Ala Trp Arg Arg Ser Ala Arg Val Thr Gly  
 50 55 60  
 Val Val Tyr Ile Ser Ser Val Ala Pro Asp Arg Lys Val Ile Arg Cys  
 65 70 75 80  
 Arg Leu Ser Val Trp Arg Leu Asp Ser Ala Leu Ser Arg Ser Ile Ala  
 85 90 95  
 Arg Met Ser Ser Glu Gly Ser Glu Asp Val Gly Gly Leu Val Ala Glu  
 100 105 110  
 Thr Glu Val Asp Gly Ala Leu Gly Gly Leu Arg Pro Gly Gly Tyr Ala  
 115 120 125  
 Gln Gly Glu Ala Gln Asp Arg His Arg Ala Leu Asp Glu Leu Gly Ala  
 130 135 140  
 Gly Gln Val Asp Gly Ala Ala Gly Ala Val Asp Arg Val Asp Glu Gln  
 145 150 155 160  
 Leu His Arg Gly Ala Val Leu Val Leu Pro Glu Ala Val Ala Glu Glu  
 165 170 175  
 Ala Ala Arg Gln Arg Leu Leu Val Pro Gly Glu Ala Asp His His Arg  
 180 185 190  
 Ala Gly Ala Val Asp Val Ala Gly Leu Ala Gly His Glu Arg Gly Ile  
 195 200 205  
 Gly Ala Val Val Gly Arg Arg Pro Ala Leu Gln Ala Arg Gly His Asp  
 210 215 220  
 Leu Leu Pro Ala Glu Val Ala Val Pro Ala Leu Asp Leu Ala Glu Gly  
 225 230 235 240  
 His Val Gly Ser Glu Leu Asp Leu Asp Val Val Leu Gly Arg Gly Pro  
 245 250 255

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Gly Val Gly Gly Thr Gly Ala Ala Val Thr Val Gln Gly Asp Arg Gly  
260 265 270

Ala Pro Cys Gly Gly Gly His Leu Asp Val Gly Ala Gly Ala Val Gly  
275 280 285

Leu Gly Asp His Val Val Gly Gly Ala Leu Gly Gln Gly Gly Ile Gln  
290 295 300

Asp Gly Gly Ala Leu Gly Leu Glu Arg Asp Gly Ile Thr His Gln Val  
305 310 315 320

Val Val Val Gly Arg Asp Arg Asp Leu Gly Thr Ser Arg Glu Ile Gly  
325 330 335

Val Val Glu Gln Ala Val Pro Gly Ser Gly Gly Asp Glu Arg Gly Arg  
340 345 350

Pro Val Asp Pro Arg Gln Glu Gly Phe Arg Ala Gly Asp Gly His Leu  
355 360 365

Gly Pro Arg Gly Asp Val Val Pro Asp  
370 375

<210> 352  
<211> 77  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> New ORF = left: 28618 right: 28848 frame: 2 size(aa): 77

<400> 352

Ser Gly Thr Thr Ser Pro Leu Gly Pro Arg Cys Pro Ser Pro Ala Arg  
1 5 10 15

Lys Pro Ser Cys Arg Gly Ser Thr Gly Arg Pro Arg Ser Ser Pro Pro  
20 25 30

Leu Pro Gly Thr Ala Cys Ser Thr Thr Pro Ile Ser Arg Leu Val Pro  
35 40 45

Arg Ser Arg Ser Arg Pro Thr Thr Thr Thr Trp Trp Val Ile Pro Ser  
50 55 60

Arg Ser Arg Pro Arg Ala Pro Pro Ser Trp Ile Pro Pro  
65 70 75

<210> 353  
<211> 53  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> New ORF = left: 28640 right: 28798 frame: 3 size(aa): 53

<400> 353

Ala Pro Asp Ala Arg His Leu Leu Glu Asn Pro Pro Val Gly Asp Arg  
1 5 10 15

Arg Val Gly Arg Val His Pro Arg Arg Tyr Pro Ala Leu Pro Ala Arg  
20 25 30

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Gln His Arg Phe Pro Gly Trp Tyr Arg Asp His Gly Pro Gly Arg Pro  
           35                          40                          45

Arg Leu Pro Gly Gly  
       50

<210> 354  
 <211> 50  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 28802 right: 28951 frame: 3 size(aa): 50

<400> 354

Ser Arg His Val Arg Gly Pro Gly His Arg Arg Pro Gly Tyr Arg Pro  
 1                          5                          10                          15

Asp Arg Gly His His Leu Leu Arg Gly His Arg Gly Pro Arg Arg Gln  
           20                          25                          30

Pro Pro His Arg Gly Val Arg His Arg Arg Gly Arg Pro Asp His Pro  
           35                          40                          45

Glu Arg  
       50

<210> 355  
 <211> 94  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 28871 right: 29152 frame: -3 size(aa): 94

<400> 355

Pro Ala Trp Arg Val Met Asn Gly Ala Leu Ala Pro Leu Ser Val Val  
 1                          5                          10                          15

Gly Pro His Cys Arg Leu Val Val Met Thr Ser Ser Arg Leu Arg Leu  
           20                          25                          30

Gln Phe Gln Pro Trp Thr Trp Gln Arg Ala Met Trp Ala Ala Asn Trp  
           35                          40                          45

Ile Leu Met Trp Phe Trp Ala Gly Ala Pro Glu Leu Ala Val Pro Val  
       50                          55                          60

Pro Pro Ser Pro Phe Arg Val Ile Gly Ala Pro Pro Ala Val Ala Asp  
 65                          70                          75                          80

Thr Ser Met Trp Gly Leu Ala Pro Trp Ala Ser Val Thr Thr  
           85                          90

<210> 356  
 <211> 186  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature

<223> New ORF = left: 28955 right: 29512 frame: 3 size(aa): 186

<400> 356

Arg Arg His Arg Tyr Arg Gln Leu Arg Gly Pro Gly Pro Glu Pro His  
 1 5 10 15  
 Gln Asp Pro Val Arg Cys Pro His Gly Pro Leu Pro Gly Pro Gly Leu  
 20 25 30  
 Glu Leu Gln Pro Gln Pro Gly Gly Gly His Asp His Glu Pro Ala Val  
 35 40 45  
 Arg Ala Asp Asp Arg Gln Arg Arg Gln Cys Pro Val His Asp Pro Pro  
 50 55 60  
 Gly Arg Leu Arg Arg Arg Leu Arg Leu Asp Gly Gly Pro Leu His Pro  
 65 70 75 80  
 Gly Pro Gly Val Ala Val Ser Pro Pro Pro Pro Gln Gln Pro Pro Glu  
 85 90 95  
 Glu Pro Gly Arg Arg Leu Gly Ala Ala Val Arg Arg His Gly Leu Arg  
 100 105 110  
 Pro Gln Arg His His Arg Pro Gly Arg Leu Arg Val His Arg Gly Pro  
 115 120 125  
 Gly Val Asp Pro Gly Leu Arg Pro Gly Arg Asn His Arg Val Gly Ala  
 130 135 140  
 His Pro Gly His Arg Gln Leu Gln Phe Gln Arg Pro Ala His Gln His  
 145 150 155 160  
 Leu Arg Ser Pro Leu Thr Thr Cys Glu Arg Ser Thr Cys Ser Arg Gln  
 165 170 175  
 Asn Pro Thr Ser Arg Arg Ser Ser Gly Thr  
 180 185

<210> 357

<211> 76

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 29140 right: 29367 frame: 2 size(aa): 76

<400> 357

Pro Ala Arg Pro Ala Thr Ser Thr Ala Pro Ala Arg Trp Trp Ser Ala  
 1 5 10 15  
 Ser Pro Gly Thr Arg Ser Arg Cys Leu Ala Ala Ser Ser Ala Thr Ala  
 20 25 30  
 Ser Gly Arg Thr Arg Thr Ala Pro Arg Cys Ser Cys Ser Ser Thr Arg  
 35 40 45  
 Ser Thr Ala Pro Ala Ala Pro Ser Thr Trp Pro Ala Pro Ser Ser Ser  
 50 55 60  
 Arg Ala Arg Cys Arg Ser Trp Ala Ser Pro Trp Ala  
 65 70 75

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<210> 358  
 <211> 62  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 29288 right: 29473 frame: -3 size(aa): 62

<400> 358

Ala Gly Arg Ser Leu Ala Cys Arg Gln Arg Ala Pro Lys Met Leu Val  
 1 5 10 15  
 Gly Trp Ser Leu Lys Leu Lys Leu Thr Val Pro Trp Val Gly Ser Asp  
 20 25 30  
 Pro Val Val Thr Pro Arg Ala Lys Pro Arg Ile Asp Thr Gly Pro Ser  
 35 40 45  
 Met Asn Ser Glu Pro Ala Arg Ser Met Val Pro Leu Gly Pro  
 50 55 60

<210> 359  
 <211> 156  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 29371 right: 29838 frame: 2 size(aa): 156

<400> 359

Pro Pro Gly Arg Ser Pro Pro Arg Ala Pro Ser Thr Ser Val Ser Ala  
 1 5 10 15  
 Thr Ser Pro Pro Thr Ser Ser Glu Pro Ser Asp Asp Met Arg Ala Ile  
 20 25 30  
 Asp Leu Leu Lys Ala Glu Ser Asn Leu Gln Thr Leu Lys Arg His Leu  
 35 40 45  
 Ile Thr Phe Arg Ser Gly Ala Thr Leu Glu Met Tyr Thr Thr Pro Val  
 50 55 60  
 Thr Leu Ala Glu Arg Arg Gln Ala Ala Glu Asn Ala Lys Ser Asp Glu  
 65 70 75 80  
 Gln Leu Glu Val Asn Leu Gly Leu Leu Ile Leu Lys Ala Lys Asp Ala  
 85 90 95  
 Asn Gly Gln Pro Leu Phe Ala Pro Gly Asp Leu Ala Gln Leu Arg Arg  
 100 105 110  
 Ser Val Ser Ala Glu Tyr Val Ala Asp Leu Val Asn Ala Leu Tyr Ser  
 115 120 125  
 Thr Pro Ala Leu Asp Glu Gly Glu Ala Ser Asp Pro Lys Pro Ser Ser  
 130 135 140  
 Pro Ser Ser Gly Lys Thr Asn Ser Ser Ser Ser Asn  
 145 150 155

<210> 360  
 <211> 178

<212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 29416 right: 29949 frame: -2 size(aa): 178

<400> 360

Gly Ala Pro Pro Pro Gly Ser Gly Pro Gly Pro Ala Arg Gly Arg Ala  
 1 5 10 15  
 Arg Pro Arg Ser Cys Pro Ala Ala Ser Gly Pro Arg Ser Ser Arg Ala  
 20 25 30  
 Arg Arg Pro Gly Ser Val Arg Thr Gly Ala Val Cys Leu Ala Gly Thr  
 35 40 45  
 Gly Arg Gly Gly Leu Trp Val Gly Gly Leu Ala Leu Val Gln Gly Arg  
 50 55 60  
 Arg Arg Val Glu Arg Val Asp Gln Val Gly His Val Leu Gly Ala Asp  
 65 70 75 80  
 Gly Pro Ala Gln Leu Gly Gln Val Ala Gly Gly Glu Gln Gly Leu Ala  
 85 90 95  
 Val Gly Val Leu Arg Leu Glu Asp Gln Gln Ala Glu Val Asp Leu Gln  
 100 105 110  
 Leu Leu Val Ala Leu Gly Val Leu Gly Gly Leu Ala Thr Leu Gly Gln  
 115 120 125  
 Gly Asp Arg Gly Gly Val His Leu Glu Arg Gly Thr Gly Pro Glu Gly  
 130 135 140  
 Asp Gln Val Pro Leu Glu Arg Leu Glu Val Gly Phe Cys Leu Glu Gln  
 145 150 155 160  
 Val Asp Arg Ser His Val Val Arg Gly Leu Arg Arg Cys Trp Trp Ala  
 165 170 175

Gly Arg

<210> 361  
 <211> 171  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 29451 right: 29963 frame: 1 size(aa): 171

<400> 361

Arg His Ala Ser Asp Arg Pro Ala Gln Gly Arg Ile Gln Pro Pro Asp  
 1 5 10 15  
 Ala Gln Ala Ala Pro Asp His Leu Pro Val Arg Cys His Ala Arg Asp  
 20 25 30  
 Val His His Pro Gly His Pro Gly Arg Ala Ser Pro Gly Arg Arg Glu  
 35 40 45  
 Arg Gln Glu Arg Arg Ala Ala Gly Gly Gln Pro Arg Pro Ala Asp Pro  
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50					55					60					
Gln 65	Gly	Glu	Gly	Arg	Gln 70	Arg	Pro	Ala	Pro	Val 75	Arg	Pro	Arg	Arg	Pro 80
Gly	Pro	Ala	Ala	Pro 85	Val	Arg	Gln	Arg	Arg 90	Val	Arg	Gly	Arg	Pro 95	Gly
Gln	Arg	Ala	Leu 100	Leu	Asp	Ala	Cys	Pro 105	Gly	Arg	Gly	Arg	Gly 110	Leu	Arg
Pro	Lys	Ala 115	Leu	Leu	Ala	Gln	Phe 120	Arg	Gln	Asp	Lys	Gln 125	Leu	Gln	Phe
Glu	Leu 130	Ser	Leu	Ala	Ser	Glu 135	Leu	Gly	Met	Thr	Trp 140	Gly	Gln	Met	Gln
Gln 145	Asp	Met	Thr	Glu	Ala 150	Glu	Leu	Ala	Leu	Trp 155	Gln	Val	Arg	Ala	Arg 160
Tyr	Leu	Glu	Glu	Glu 165	Arg	Leu	Arg	Ser	Pro 170	Val					

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<210> 362
<211> 116
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 29639 right: 29986 frame: 3 size(aa): 116
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<400> 362

[illegible]

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<210> 363
<211> 63
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 29741 right: 29929 frame: -3 size(aa): 63
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&lt;400&gt; 363

Arg Ala Arg Thr Cys Gln Arg Ala Ser Ser Ala Ser Val Met Ser Cys  
 1 5 10 15  
 Cys Ile Trp Pro Gln Val Ile Pro Ser Ser Glu Ala Arg Leu Ser Ser  
 20 25 30  
 Asn Trp Ser Cys Leu Ser Cys Arg Asn Trp Ala Arg Arg Ala Leu Gly  
 35 40 45  
 Arg Arg Pro Arg Pro Arg Pro Gly Gln Ala Ser Ser Arg Ala Arg  
 50 55 60

&lt;210&gt; 364

&lt;211&gt; 82

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 29751 right: 29996 frame: -1 size(aa): 82

&lt;400&gt; 364

Ser Lys Ser Ile Arg Ser Arg Leu Pro Arg Ser Asp Arg Arg Pro Glu  
 1 5 10 15  
 Ala Leu Leu Leu Gln Val Ala Gly Pro Asp Leu Pro Glu Gly Glu Leu  
 20 25 30  
 Gly Leu Gly His Val Leu Leu His Leu Ala Pro Gly His Pro Glu Leu  
 35 40 45  
 Gly Gly Gln Ala Gln Phe Glu Leu Glu Leu Phe Val Leu Pro Glu Leu  
 50 55 60  
 Gly Glu Glu Gly Phe Gly Ser Glu Ala Ser Pro Ser Ser Arg Ala Gly  
 65 70 75 80  
 Val Glu

&lt;210&gt; 365

&lt;211&gt; 61

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 29893 right: 30075 frame: 2 size(aa): 61

&lt;400&gt; 365

Pro Arg Pro Ser Ser Pro Ser Gly Arg Ser Gly Pro Ala Thr Trp Arg  
 1 5 10 15  
 Arg Ser Ala Ser Gly Leu Arg Ser Asp Leu Gly Arg Arg Leu Arg Ile  
 20 25 30  
 Asp Phe Asp Gln Arg Leu Gly Gly Cys Leu Asp Lys His Pro Thr Gly  
 35 40 45  
 Arg Glu Asp Gln His Arg Arg His Gln Phe Thr Arg Gly  
 50 55 60

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<210> 366  
 <211> 133  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 29953 right: 30351 frame: -2 size(aa): 133

<400> 366

```

Pro Trp Pro Arg Arg Trp Arg Pro His Pro Gly Arg Arg Met Pro Gly
1          5          10          15
Gly Pro Pro Arg Ala Cys Arg Ser Cys Arg Trp Arg Pro Gly Arg Cys
          20          25          30
Cys Pro Leu Ala Arg Thr His Arg Gly Pro Arg Arg Ser Arg Arg Pro
          35          40          45
Val Pro Gly Pro Gly Ala Ala Ala Pro Ser Gly Gln Ala Ala Cys Pro
          50          55          60
Pro Gly Gly Cys Gln Arg Arg Asp Arg Pro Gly Arg Arg Cys Ser Cys
65          70          75          80
Arg Gln Leu Ser Tyr Gly Ala Gly Met Arg Thr Leu Thr Ala Cys Glu
          85          90          95
Leu Val Ala Thr Val Leu Ile Leu Thr Ala Cys Gly Val Leu Val Lys
          100          105          110
Thr Thr Ala Gln Pro Leu Ile Glu Val Tyr Ser Gln Pro Pro Ala Gln
          115          120          125
Val Arg Pro Glu Thr
          130

```

<210> 367  
 <211> 293  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 30087 right: 30965 frame: -1 size(aa): 293

<400> 367

```

Gly Leu Glu Arg Pro Glu Asp Arg Trp His Asp Ala Arg Pro His Asp
1          5          10          15
Arg Pro His Val Asp Glu Pro Val Phe Gln Leu Leu Asp Val Gly Ala
          20          25          30
Gly Arg Val Gln Arg Gly Val Gln Leu Val Gly Pro Leu Gly Ala Asp
          35          40          45
Val Leu Gln Gly Leu Glu Asp Asp Val Pro Gly Glu Leu Ala Leu Gly
          50          55          60
Arg His Leu Ala Gln Leu Pro Gly Val Asp Ala His Asp Pro Gly His
65          70          75          80
Leu Asp Ala Asp Gly Arg Arg Leu Leu His Asp Arg Val Glu Leu Val
          85          90          95

```

85 90 95  
 Ala Pro Glu Arg Pro Gly Ala Gln Gly Leu Gly Gln Leu Pro Glu Gly  
 100 105 110  
 Ala Leu Ala Leu Leu Gly Arg Arg Ala Ala Val Pro Gly Arg Arg Val  
 115 120 125  
 Glu Ala Leu Val Asp Val Pro His Leu Gly Gln Gly Glu Ala Gln Gly  
 130 135 140  
 Ala Glu Ser Gly Val Gly Leu Arg Glu Ala Gly Leu Gly Arg Leu Leu  
 145 150 155 160  
 Arg Glu Ala Glu Leu Gly Cys Gly Leu Leu Gly His Leu Leu Glu Pro  
 165 170 175  
 Gly Val Val Val Gln Ala Gly Ser Glu Pro Pro Asp Pro His Leu Gly  
 180 185 190  
 Val Leu Gly Leu His Pro His Leu Gln Asp Arg Val Ser His Gly Pro  
 195 200 205  
 Gly Gly Gly Asp His Thr Gln Gly Gly Glu Cys Pro Glu Ala Pro His  
 210 215 220  
 Glu His Val Asp Leu Ala Gly Gly Gly Leu Gly Ala Val Ala His Trp  
 225 230 235 240  
 Pro Glu His Ile Ala Ala Pro Gly Gly Pro Ala Gly Pro Phe Gln Ala  
 245 250 255  
 Pro Glu Pro Leu Leu His Pro Gly Lys Leu Arg Val Arg Leu Ala Gly  
 260 265 270  
 Ala Lys Asp Glu Ile Asp Leu Val Gly Gly Ala His Ala Gly Ser Leu  
 275 280 285  
 Ala Thr Val Arg Ala  
 290

<210> 368

<211> 84

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 30101 right: 30352 frame: 3 size(aa): 84

<400> 368

Leu Ser Cys Arg His Glu His Arg Leu Pro Gly Arg Ser Arg Leu Trp  
 1 5 10 15  
 His Pro Pro Gly Gly His Ala Ala Cys Pro Asp Gly Ala Ala Ala Pro  
 20 25 30  
 Gly Pro Gly Thr Gly Arg Arg Asp Arg Arg Gly Pro Arg Cys Val Arg  
 35 40 45  
 Ala Asn Gly Gln Gln Arg Pro Gly Arg His Arg Gln Asp Arg His Ala  
 50 55 60  
 Arg Gly Gly Pro Pro Gly Ile Arg Arg Pro Gly Cys Gly Arg His Arg  
 65 70 75 80

Arg Gly His Gly

<210> 369  
 <211> 860  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 30105 right: 32684 frame: 1 size(aa): 860

&lt;400&gt; 369

Ala Ala Gly Met Ser Thr Ala Tyr Gln Val Asp Leu Val Phe Gly Thr  
 1 5 10 15  
 Arg Gln Ala Asp Thr Gln Leu Ala Arg Met Glu Gln Arg Leu Arg Gly  
 20 25 30  
 Leu Glu Arg Ala Gly Gly Thr Ala Gly Gly Arg Asp Val Phe Gly Pro  
 35 40 45  
 Met Gly Asn Ser Ala Gln Ala Ala Thr Gly Lys Ile Asp Met Leu Val  
 50 55 60  
 Gly Gly Leu Arg Ala Phe Ala Ala Leu Gly Val Val Ala Thr Ala Gly  
 65 70 75 80  
 Ala Met Ala Asn Ser Ile Leu Gln Met Gly Met Gln Ala Glu Asn Thr  
 85 90 95  
 Glu Val Arg Val Arg Gly Leu Thr Ala Gly Leu Asp Asp Tyr Ala Arg  
 100 105 110  
 Phe Gln Glu Val Ala Gln Glu Ala Ala Lys Phe Gly Leu Ser Gln  
 115 120 125  
 Gln Ala Ala Gln Ala Gly Leu Ala Gln Thr Tyr Ala Arg Leu Arg Pro  
 130 135 140  
 Leu Gly Phe Thr Leu Ser Glu Val Arg Asp Val Tyr Glu Gly Phe Asn  
 145 150 155 160  
 Thr Ala Ala Arg Asn Gly Gly Ser Thr Ala Gln Glu Ser Glu Gly Ala  
 165 170 175  
 Phe Arg Gln Leu Ala Gln Ala Leu Gly Ser Gly Ala Leu Arg Gly Asp  
 180 185 190  
 Glu Phe Asn Ser Ile Met Glu Gln Thr Pro Ala Ile Gly Ile Glu Val  
 195 200 205  
 Ala Arg Val Met Gly Ile Asn Ala Gly Gln Leu Arg Glu Met Ala Ala  
 210 215 220  
 Glu Gly Lys Leu Thr Gly Asp Ile Val Leu Lys Ala Leu Gln Asn Ile  
 225 230 235 240  
 Arg Thr Glu Gly Ala Asp Lys Leu Asp Ala Ser Leu Asn Thr Thr Ser  
 245 250 255  
 Ala Asn Val Glu Lys Leu Lys Asn Arg Phe Ile Asp Met Gly Thr Val  
 260 265 270  
 Val Gly Ser Gly Val Met Pro Pro Ile Leu Arg Thr Leu Gln Ala Leu  
 275 280 285

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Asn Leu Leu Leu Asp Gln Ala Thr Lys Asn Ala Asp Gly Leu Gly Phe  
 290 295 300  
 Ala Leu Gln Gln Ala Met Gly Ile Ala Gly Gly Leu Pro Val Asn Leu  
 305 310 315 320  
 Gly Ile Gly Ile Gly Asn Val Ala Gly Arg Ile Pro Gly Gly Arg Gln  
 325 330 335  
 Ala Ile Gln Gly Ile Gly Ser Met Leu Gly Tyr Gln Pro Glu Lys Gln  
 340 345 350  
 Thr Phe Gly Pro Phe Met Pro Glu Gly Leu Glu Gln Arg Ser Arg Ala  
 355 360 365  
 Gln Glu Gln Ala Arg Ile Arg Arg Glu Lys Glu Ala Lys Asp Ala Ala  
 370 375 380  
 Thr Lys Ser Arg Ser Arg Gly Gly Gly Ser Ser Gly Pro Asp Phe Pro  
 385 390 395 400  
 Ala Tyr Ile Thr Ala Asn Gln Met Arg Asp Trp Leu Arg Ser Gln Gly  
 405 410 415  
 Tyr Glu Arg Thr Ser Gly Asp Phe Thr Asn Lys Gly His Arg Thr Pro  
 420 425 430  
 Asn His Met Leu Asn Ala Ile Asp Ile Gly Glu Leu Asp Gly Ser Tyr  
 435 440 445  
 Ala Phe Ala Val Gln Arg Ala Lys Ala Leu Glu Ala Arg Leu Arg Ala  
 450 455 460  
 Thr Gly Ala Phe Gly Asn Gln Leu Phe Gly Pro Thr Arg Asp Pro Arg  
 465 470 475 480  
 Gly His Lys Asp His Val His Ile Pro Thr Pro Gly Gly Arg Ile Arg  
 485 490 495  
 Val Thr Pro Gly Leu Ala Gln Leu Met Gly Leu Asn Gly Lys Gly Ser  
 500 505 510  
 Gly Gly Met Ala Met Gln Gly Ala Glu Trp Ala Asn Glu Ala Ala Glu  
 515 520 525  
 Lys Glu Ala Glu Arg Gln Gln Lys Arg Glu Asp Gly Leu Arg Thr Ser  
 530 535 540  
 Gly Arg Ala Leu Ala Leu Ala Gln Ala Glu Leu Lys Ile Ala Gln Ala  
 545 550 555 560  
 Ser Thr Asp Glu Gln Arg Ile Gln Ala Thr Ala Asp Lys Asp Arg Met  
 565 570 575  
 Asp Arg Met Tyr Glu Phe Ala Asp Leu Tyr Arg Asp Ala Val Thr Glu  
 580 585 590  
 Glu Glu Arg Ala Asn Ile Ala Lys Ala Gln Gly Val Glu Ile Gln Arg  
 595 600 605  
 Gln Gln Val Glu Leu Ala Lys Ser Leu Gly Asp Ala Leu Val Glu Val  
 610 615 620  
 Ala Arg Lys Gln Glu Ala Ala Met Arg Pro Arg Leu Asp Asn Ile Glu  
 625 630 635 640  
 Arg Leu Glu Ala Thr Leu Arg Gly Pro Asp Ala Val Arg Ala Leu Glu

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645                      650                      655  
 Arg Arg Asn Ala Val Gly Glu Met Ser Ala Ala Gly Val Gly Pro Ala  
                     660                      665                      670  
 Arg Ala Gly Glu Leu Tyr Asp Arg Glu Gln Ala Leu Asp Arg Gln Val  
                     675                      680                      685  
 Glu Arg Gln Arg Glu Leu Asn Ala Leu Trp Glu Glu Gly Gly Arg Thr  
                     690                      695                      700  
 Leu Gly Gly Leu Phe Ser Asp Leu Val Lys Gly Thr Asp Asp Trp Gln  
                     705                      710                      715                      720  
 Ala Ser Leu Thr Arg Ala Leu Glu Ser Leu Ala Ser Val Leu Leu Gln  
                     725                      730                      735  
 Ala Gly Leu Arg Gly Ile Ala Glu Asn Asn Gln Gly Gly Phe Leu Gly  
                     740                      745                      750  
 Gly Leu Leu Ser Gln Val Met Gly Ser Phe Asp Gly Gly Gly Tyr Thr  
                     755                      760                      765  
 Gly Ser Gly Ser Arg Thr Gly Gly Leu Asp Gly Lys Gly Gly Phe Ala  
                     770                      775                      780  
 Ala Ile Leu His Pro Asn Glu Thr Val Val Asp His Thr Arg Gly Gln  
                     785                      790                      795                      800  
 Ala Ala Gly Gly Gly Met Val Asn Val Gly Gly Ile Thr Val Asn Val  
                     805                      810                      815  
 Ala Ser Asp Gly Thr Thr Glu Val Asp Ala Ala Gly Gly Gly Glu Leu  
                     820                      825                      830  
 Ala Arg Gly Val Gln Ala Ala Val Thr Ala Glu Ile Leu Arg Gln Met  
                     835                      840                      845  
 Arg Pro Gly Gly Val Leu Ala Ala Gly Gln Arg Gly  
                     850                      855                      860

&lt;210&gt; 370

&lt;211&gt; 247

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 30118 right: 30858 frame: 2 size(aa): 247

&lt;400&gt; 370

Ala Pro Pro Thr Arg Ser Ile Ser Ser Leu Ala Pro Ala Arg Arg Thr  
 1                      5                      10                      15  
 Arg Ser Leu Pro Gly Trp Ser Ser Gly Ser Gly Ala Trp Asn Gly Pro  
                     20                      25                      30  
 Ala Gly Pro Pro Gly Ala Ala Met Cys Ser Gly Gln Trp Ala Thr Ala  
                     35                      40                      45  
 Pro Arg Pro Pro Pro Ala Arg Ser Thr Cys Ser Trp Gly Ala Ser Gly  
                     50                      55                      60  
 His Ser Pro Pro Trp Val Trp Ser Pro Pro Pro Gly Pro Trp Leu Thr  
 65                      70                      75                      80

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Arg Ser Cys Arg Trp Gly Cys Arg Pro Arg Thr Pro Arg Cys Gly Ser  
85 90 95  
Gly Gly Ser Leu Pro Ala Trp Thr Thr Thr Pro Gly Ser Arg Arg Trp  
100 105 110  
Pro Arg Arg Pro Gln Pro Ser Ser Ala Ser Arg Ser Arg Arg Pro Arg  
115 120 125  
Pro Ala Ser Arg Arg Pro Thr Pro Asp Ser Ala Pro Trp Ala Ser Pro  
130 135 140  
Cys Pro Arg Cys Gly Thr Ser Thr Arg Ala Ser Thr Arg Arg Pro Gly  
145 150 155 160  
Thr Ala Ala Arg Arg Pro Arg Arg Ala Arg Ala Pro Ser Gly Ser Trp  
165 170 175  
Pro Arg Pro Trp Ala Pro Gly Arg Ser Gly Ala Thr Ser Ser Thr Arg  
180 185 190  
Ser Trp Ser Arg Arg Arg Pro Ser Ala Ser Arg Trp Pro Gly Ser Trp  
195 200 205  
Ala Ser Thr Pro Gly Ser Cys Ala Arg Trp Arg Pro Arg Ala Ser Ser  
210 215 220  
Pro Gly Thr Ser Ser Ser Arg Pro Cys Arg Thr Ser Ala Pro Arg Gly  
225 230 235 240  
Pro Thr Ser Trp Thr Pro Leu  
245

<210> 371  
<211> 101  
<212> PRT  
<213> Cyanophage S-2L  
  
<220>  
<221> misc\_feature  
<223> New ORF = left: 30128 right: 30430 frame: -3 size(aa): 101

<400> 371  
Ser Ser Arg Pro Ala Val Ser Pro Arg Thr Arg Thr Ser Val Phe Ser  
1 5 10 15  
Ala Cys Ile Pro Ile Cys Arg Ile Glu Leu Ala Met Ala Pro Ala Val  
20 25 30  
Ala Thr Thr Pro Arg Ala Ala Asn Ala Arg Arg Pro Pro Thr Ser Met  
35 40 45  
Ser Ile Leu Pro Val Ala Ala Trp Ala Leu Leu Pro Ile Gly Pro Asn  
50 55 60  
Thr Ser Arg Pro Pro Ala Val Pro Pro Ala Arg Ser Arg Pro Arg Ser  
65 70 75 80  
Arg Cys Ser Ile Arg Ala Ser Cys Val Ser Ala Trp Arg Val Pro Lys  
85 90 95  
Thr Arg Ser Thr Trp  
100

<210> 372  
<211> 352

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 30356 right: 31411 frame: 3 size(aa): 352

&lt;400&gt; 372

Leu Asp Pro Ala Asp Gly Asp Ala Gly Arg Glu His Arg Gly Ala Gly  
 1 5 10 15  
 Pro Gly Ala His Cys Arg Pro Gly Arg Leu Arg Pro Val Pro Gly Gly  
 20 25 30  
 Gly Pro Gly Gly Arg Ser Gln Val Arg Pro Leu Ala Ala Gly Gly Pro  
 35 40 45  
 Gly Arg Pro Arg Ala Asp Leu Arg Pro Thr Pro Pro Pro Gly Leu His  
 50 55 60  
 Pro Val Arg Gly Ala Gly Arg Leu Arg Gly Leu Gln His Gly Gly Pro  
 65 70 75 80  
 Glu Arg Arg Leu Asp Gly Pro Gly Glu Arg Gly Arg Leu Pro Ala Ala  
 85 90 95  
 Gly Pro Gly Pro Gly Leu Arg Gly Ala Pro Gly Arg Arg Val Gln Leu  
 100 105 110  
 Asp His Gly Ala Asp Ala Gly His Arg His Arg Gly Gly Pro Gly His  
 115 120 125  
 Gly His Gln Arg Arg Ala Ala Ala Arg Asp Gly Gly Arg Gly Gln Ala  
 130 135 140  
 His Arg Gly His Arg Pro Gln Gly Pro Ala Glu His Pro His Arg Gly  
 145 150 155 160  
 Gly Arg Gln Ala Gly Arg Leu Ser Glu His Asp Gln Arg Gln Arg Arg  
 165 170 175  
 Glu Ala Glu Lys Pro Val His Arg His Gly Asp Gly Arg Gly Val Trp  
 180 185 190  
 Arg His Ala Thr Asp Pro Pro Asp Ala Pro Gly Pro Lys Pro Ala Ala  
 195 200 205  
 Arg Pro Gly His Gln Glu Cys Arg Arg Pro Gly Leu Arg Pro Ala Ala  
 210 215 220  
 Gly His Gly Tyr Arg Arg Gly Ala Pro Gly Gln Pro Gly His Arg His  
 225 230 235 240  
 Arg Gln Arg Arg Arg Ser His Pro Arg Gly Pro Pro Gly Asp Pro Gly  
 245 250 255  
 Tyr Arg Gln His Ala Arg Leu Pro Ala Arg Glu Thr Asp Leu Arg Pro  
 260 265 270  
 Val His Ala Arg Arg Pro Arg Ala Ala Gln Pro Cys Pro Gly Ala Gly  
 275 280 285  
 Pro His Pro Glu Gly Glu Gly Gly Gln Gly Arg Cys Tyr Glu Glu Pro  
 290 295 300  
 Gln Pro Trp Arg Trp Leu Glu Arg Pro Arg Leu Pro Arg Leu His His  
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305                      310                      315                      320  
 Ser Glu Pro Asp Ala Gly Leu Ala Pro Glu Pro Gly Val Arg Ala Asp  
                                  325                      330                      335

Glu Arg Gly Leu His Gln Gln Gly Ala Pro Asp Ala Gln Pro His Ala  
                                  340                      345                      350

<210> 373  
 <211> 190  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 30572 right: 31141 frame: -3 size(aa): 190

<400> 373

Pro Ser Met Leu Pro Ile Pro Trp Ile Ala Trp Arg Pro Pro Gly Met  
 1                      5                      10                      15  
 Arg Pro Ala Thr Leu Pro Met Pro Met Pro Arg Leu Thr Gly Ser Pro  
                                  20                      25                      30  
 Pro Ala Ile Pro Met Ala Cys Cys Arg Ala Lys Pro Arg Pro Ser Ala  
                                  35                      40                      45  
 Phe Leu Val Ala Trp Ser Ser Ser Arg Phe Arg Ala Trp Ser Val Arg  
                                  50                      55                      60  
 Arg Ile Gly Gly Met Thr Pro Asp Pro Thr Thr Val Pro Met Ser Met  
 65                      70                      75                      80  
 Asn Arg Phe Phe Ser Phe Ser Thr Leu Ala Leu Val Val Phe Arg Glu  
                                  85                      90                      95  
 Ala Ser Ser Leu Ser Ala Pro Ser Val Arg Met Phe Cys Arg Ala Leu  
                                  100                      105                      110  
 Arg Thr Met Ser Pro Val Ser Leu Pro Ser Ala Ala Ile Ser Arg Ser  
                                  115                      120                      125  
 Cys Pro Ala Leu Met Pro Met Thr Arg Ala Thr Ser Met Pro Met Ala  
                                  130                      135                      140  
 Gly Val Cys Ser Met Ile Glu Leu Asn Ser Ser Pro Arg Ser Ala Pro  
 145                      150                      155                      160  
 Glu Pro Arg Ala Trp Ala Ser Cys Arg Lys Ala Pro Ser Leu Ser Trp  
                                  165                      170                      175  
 Ala Val Glu Pro Pro Phe Arg Ala Ala Val Leu Lys Pro Ser  
                                  180                      185                      190

<210> 374  
 <211> 498  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 30969 right: 32462 frame: -1 size(aa): 498

<400> 374

Asp Arg Gly Glu Ser Ala Leu Ala Val Glu Ala Pro Gly Ala Gly Ser  
 1 5 10 15  
 Gly Ala Gly Val Ala Ala Pro Val Glu Arg Thr His His Leu Ala Glu  
 20 25 30  
 Gln Thr Ala Gln Glu Pro Ala Leu Val Val Leu Gly Asp Ala Pro Glu  
 35 40 45  
 Ala Arg Leu Gln Gln His Arg Arg Gln Arg Phe Glu Arg Pro Gly Glu  
 50 55 60  
 Ala Gly Leu Pro Val Val Gly Ala Leu Asp Gln Val Gly Glu Gln Pro  
 65 70 75 80  
 Ala Gln Gly Ala Ala Pro Leu Leu Pro Lys Gly Ile Glu Leu Ala Leu  
 85 90 95  
 Pro Leu His Leu Thr Val Glu Gly Leu Leu Pro Val Val Glu Leu Ala  
 100 105 110  
 Gly Pro Gly Arg Ala His Pro Gly Gly Arg His Leu Ala His Gly Val  
 115 120 125  
 Pro Ala Leu Gln Gly Pro His Arg Val Gly Pro Pro Glu Gly Gly Leu  
 130 135 140  
 Glu Pro Leu Asp Val Val Glu Pro Gly Ala His Gly Arg Leu Leu Leu  
 145 150 155 160  
 Pro Gly His Leu Tyr Gln Gly Val Pro Gln Gly Leu Gly Glu Leu His  
 165 170 175  
 Leu Leu Ala Leu Asp Leu Asp Ser Leu Gly Leu Gly Asp Val Gly Pro  
 180 185 190  
 Leu Leu Leu Gly Asp Gly Ile Pro Val Gln Val Gly Glu Leu Val His  
 195 200 205  
 Ser Val His Pro Val Phe Val Cys Gly Gly Leu Asp Pro Leu Leu Val  
 210 215 220  
 Gly Ala Gly Leu Gly Asp Leu Glu Leu Gly Leu Gly Gln Gly Gln Gly  
 225 230 235 240  
 Pro Ala Ala Arg Ala Gln Thr Val Leu Pro Leu Leu Leu Ala Leu Gly  
 245 250 255  
 Leu Phe Leu Cys Gly Leu Val Cys Pro Leu Gly Pro Leu His Arg His  
 260 265 270  
 Pro Ala Ala Ala Leu Ala Val Glu Pro His Gln Leu Gly Gln Pro Arg  
 275 280 285  
 Gly Asp Pro Asp Pro Ala Ala Gly Gly Gly Asp Val His Val Val Leu  
 290 295 300  
 Val Pro Pro Gly Val Pro Ser Arg Ala Glu Gln Leu Val Ala Glu Arg  
 305 310 315 320  
 Pro Gly Arg Pro Gln Ala Gly Leu Glu Arg Leu Ser Pro Leu Asp Gly  
 325 330 335  
 Glu Gly Ile Arg Ala Ile Glu Leu Ala Asp Val Asp Gly Val Lys His  
 340 345 350  
 Val Val Gly Arg Pro Val Pro Leu Val Gly Glu Val Pro Ala Arg Pro  
 355 360 365

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Leu Val Pro Leu Ala Pro Glu Pro Val Pro His Leu Val Arg Cys Asp  
 370 375 380  
 Val Gly Gly Glu Val Gly Ala Ala Arg Ala Thr Ala Thr Ala Ala Ala  
 385 390 395 400  
 Leu Arg Ser Ser Val Leu Gly Leu Leu Leu Pro Pro Asp Ala Gly Leu  
 405 410 415  
 Leu Leu Gly Thr Ala Ala Leu Leu Glu Ala Phe Trp His Glu Arg Ala  
 420 425 430  
 Glu Gly Leu Phe Leu Gly Leu Val Ala Glu His Ala Ala Asp Thr Leu  
 435 440 445  
 Asp Arg Leu Ala Ala Pro Gly Asp Ala Thr Gly Asp Val Ala Asp Ala  
 450 455 460  
 Asp Ala Gln Val Asp Arg Glu Pro Pro Gly Asp Thr His Gly Leu Leu  
 465 470 475 480  
 Gln Gly Glu Ala Gln Ala Val Gly Ile Leu Gly Gly Leu Val Glu Gln  
 485 490 495

Gln Val

<210> 375  
 <211> 173  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 30970 right: 31488 frame: 2 size(aa): 173

<400> 375

Thr Cys Cys Ser Thr Arg Pro Pro Arg Met Pro Thr Ala Trp Ala Ser  
 1 5 10 15  
 Pro Cys Ser Arg Pro Trp Val Ser Pro Gly Gly Ser Arg Ser Thr Trp  
 20 25 30  
 Ala Ser Ala Ser Ala Thr Ser Pro Val Ala Ser Pro Gly Ala Ala Arg  
 35 40 45  
 Arg Ser Arg Val Ser Ala Ala Cys Ser Ala Thr Ser Pro Arg Asn Arg  
 50 55 60  
 Pro Ser Ala Arg Ser Cys Gln Lys Ala Ser Ser Ser Ala Ala Val Pro  
 65 70 75 80  
 Arg Ser Arg Pro Ala Ser Gly Gly Arg Arg Arg Pro Arg Thr Leu Leu  
 85 90 95  
 Arg Arg Ala Ala Ala Val Ala Val Ala Arg Ala Ala Pro Thr Ser Pro  
 100 105 110  
 Pro Thr Ser Gln Arg Thr Arg Cys Gly Thr Gly Ser Gly Ala Arg Gly  
 115 120 125  
 Thr Ser Gly Arg Ala Gly Thr Ser Pro Thr Arg Gly Thr Gly Arg Pro  
 130 135 140  
 Thr Thr Cys Leu Thr Pro Ser Thr Ser Ala Ser Ser Met Ala Arg Met  
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145                      150                      155                      160  
 Pro Ser Pro Ser Ser Gly Leu Arg Arg Ser Arg Pro Ala  
                          165                      170

<210> 376  
 <211> 54  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 31145 right: 31306 frame: -3 size(aa): 54

<400> 376  
 Ala Gly Lys Ser Gly Pro Leu Glu Pro Pro Pro Arg Leu Arg Leu Phe  
 1                      5                      10                      15  
 Val Ala Ala Ser Leu Ala Ser Phe Ser Leu Arg Met Arg Ala Cys Ser  
                          20                      25                      30  
 Trp Ala Arg Leu Arg Cys Ser Arg Pro Ser Gly Met Asn Gly Pro Lys  
                          35                      40                      45  
 Val Cys Phe Ser Gly Trp  
                          50

<210> 377  
 <211> 275  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 31310 right: 32134 frame: -3 size(aa): 275

<400> 377  
 Ser Ser Pro Ala Leu Ala Gly Pro Thr Pro Ala Ala Asp Ile Ser Pro  
 1                      5                      10                      15  
 Thr Ala Phe Arg Arg Ser Arg Ala Arg Thr Ala Ser Gly Pro Arg Arg  
                          20                      25                      30  
 Val Ala Ser Ser Arg Ser Met Leu Ser Ser Arg Gly Arg Met Ala Ala  
                          35                      40                      45  
 Ser Cys Phe Arg Ala Thr Ser Thr Arg Ala Ser Pro Arg Asp Leu Ala  
                          50                      55                      60  
 Ser Ser Thr Cys Trp Arg Trp Ile Ser Thr Pro Trp Ala Leu Ala Met  
 65                      70                      75                      80  
 Leu Ala Arg Ser Ser Ser Val Thr Ala Ser Leu Tyr Arg Ser Ala Asn  
                          85                      90                      95  
 Ser Tyr Ile Arg Ser Ile Arg Ser Leu Ser Ala Val Ala Trp Ile Arg  
                          100                      105                      110  
 Cys Ser Ser Val Leu Ala Trp Ala Ile Leu Ser Ser Ala Trp Ala Arg  
                          115                      120                      125  
 Ala Arg Ala Arg Pro Leu Val Arg Arg Pro Ser Ser Arg Phe Cys Trp  
                          130                      135                      140

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Arg Ser Ala Ser Phe Ser Ala Ala Ser Phe Ala His Ser Ala Pro Cys  
 145 150 155 160  
 Ile Ala Ile Pro Pro Leu Pro Leu Pro Leu Ser Pro Ile Ser Trp Ala  
 165 170 175  
 Ser Pro Gly Val Thr Arg Ile Arg Pro Pro Gly Val Gly Met Cys Thr  
 180 185 190  
 Trp Ser Leu Cys Pro Arg Gly Ser Arg Val Gly Pro Asn Ser Trp Leu  
 195 200 205  
 Pro Asn Ala Pro Val Ala Leu Arg Arg Ala Ser Ser Ala Leu Ala Arg  
 210 215 220  
 Trp Thr Ala Lys Ala Tyr Glu Pro Ser Ser Ser Pro Met Ser Met Ala  
 225 230 235 240  
 Leu Ser Met Trp Leu Gly Val Arg Cys Pro Leu Leu Val Lys Ser Pro  
 245 250 255  
 Leu Val Arg Ser Tyr Pro Trp Leu Arg Ser Gln Ser Arg Ile Trp Phe  
 260 265 270  
 Ala Val Met  
 275

<210> 378

<211> 362

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 31472 right: 32557 frame: 3 size(aa): 362

<400> 378

Gly Ala Arg Gly Pro Pro Glu Gly Asp Arg Gly Val Arg Gln Pro Ala  
 1 5 10 15  
 Val Arg Pro Asp Ser Gly Pro Pro Gly Ala Gln Gly Pro Arg Ala His  
 20 25 30  
 Pro His Pro Arg Arg Pro Asp Pro Gly His Pro Gly Ala Gly Pro Ala  
 35 40 45  
 Asp Gly Ala Gln Arg Gln Gly Gln Arg Arg Asp Gly Asp Ala Gly Gly  
 50 55 60  
 Arg Val Gly Lys Arg Gly Arg Arg Glu Arg Gly Arg Ala Pro Ala Glu  
 65 70 75 80  
 Ala Gly Gly Arg Ser Ala His Glu Arg Pro Gly Pro Gly Pro Gly Pro  
 85 90 95  
 Gly Arg Ala Gln Asp Arg Pro Gly Gln His Arg Arg Ala Ala Asp Pro  
 100 105 110  
 Gly His Arg Arg Gln Arg Pro Asp Gly Pro Asn Val Arg Val Arg Arg  
 115 120 125  
 Pro Val Gln Gly Cys Arg His Arg Gly Gly Ala Gly Gln His Arg Gln  
 130 135 140  
 Gly Pro Gly Ser Arg Asp Pro Ala Pro Ala Gly Gly Ala Arg Gln Val  
 145 150 155 160

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Pro Gly Gly Arg Pro Gly Arg Gly Gly Pro Glu Ala Gly Gly Gly His  
165 170 175  
Ala Pro Pro Ala Arg Gln His Arg Ala Ala Arg Gly His Pro Pro Gly  
180 185 190  
Ala Arg Arg Gly Ala Gly Pro Gly Ala Pro Glu Arg Arg Gly Arg Asp  
195 200 205  
Val Gly Arg Arg Gly Gly Pro Gly Gln Gly Arg Arg Ala Leu Arg Pro  
210 215 220  
Gly Ala Gly Pro Arg Pro Ser Gly Gly Ala Ala Thr Arg Ala Gln Cys  
225 230 235 240  
Pro Leu Gly Gly Gly Gly Pro His Pro Gly Arg Ala Val Leu Arg Pro  
245 250 255  
Gly Gln Gly His Arg Arg Leu Ala Gly Gln Pro His Pro Gly Ala Arg  
260 265 270  
Ile Ala Gly Val Gly Ala Ala Ala Gly Gly Pro Pro Gly His Arg Arg  
275 280 285  
Glu Gln Pro Gly Arg Val Pro Gly Arg Ser Ala Gln Pro Gly Asp Gly  
290 295 300  
Phe Val Arg Arg Gly Arg Leu His Arg Leu Arg Ile Pro His Arg Gly  
305 310 315 320  
Pro Arg Arg Gln Gly Arg Ile Arg Arg Asp Pro Thr Pro Glu Arg Asp  
325 330 335  
Cys Arg Arg Ser His Pro Gly Ala Gly Gly Arg Arg Arg His Gly Gln  
340 345 350  
Arg Arg Arg Asp His Gly Gln Arg Arg Gln  
355 360

<210> 379

<211> 117

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 31618 right: 31968 frame: 2 size(aa): 117

<400> 379

Trp Gly Ser Thr Ala Arg Ala Ala Ala Gly Trp Arg Cys Arg Gly Pro  
1 5 10 15  
Ser Gly Gln Thr Arg Pro Gln Arg Lys Arg Pro Ser Ala Ser Arg Ser  
20 25 30  
Gly Arg Thr Val Cys Ala Arg Ala Ala Gly Pro Trp Pro Trp Pro Arg  
35 40 45  
Pro Ser Ser Arg Ser Pro Arg Pro Ala Pro Thr Ser Ser Gly Ser Arg  
50 55 60  
Pro Pro Gln Thr Lys Thr Gly Trp Thr Glu Cys Thr Ser Ser Pro Thr  
65 70 75 80  
Cys Thr Gly Met Pro Ser Pro Arg Arg Ser Gly Pro Thr Ser Pro Arg  
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85 90 95  
 Pro Arg Glu Ser Arg Ser Ser Ala Ser Arg Trp Ser Ser Pro Ser Pro  
           100          105          110  
 Trp Gly Thr Pro Trp  
           115  
 <210> 380  
 <211> 103  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 31876 right: 32184 frame: -2 size(aa): 103

<400> 380  
 Ala Arg Val Ala Ala Pro Pro Asp Gly Arg Gly Pro Ala Pro Gly Arg  
 1          5          10          15  
 Arg Ala Arg Arg Pro Trp Pro Gly Pro Pro Arg Arg Pro Thr Ser Arg  
           20          25          30  
 Pro Arg Arg Ser Gly Ala Pro Gly Pro Ala Pro Arg Arg Ala Pro Gly  
           35          40          45  
 Gly Trp Pro Arg Ala Ala Arg Cys Cys Arg Ala Gly Gly Ala Trp Pro  
           50          55          60  
 Pro Pro Ala Ser Gly Pro Pro Leu Pro Gly Arg Pro Pro Gly Thr Trp  
 65          70          75          80  
 Arg Ala Pro Pro Ala Gly Ala Gly Ser Arg Leu Pro Gly Pro Trp Arg  
           85          90          95  
 Cys Trp Pro Ala Pro Pro Arg  
           100

<210> 381  
 <211> 135  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 31972 right: 32376 frame: 2 size(aa): 135

<400> 381  
 Arg Trp Pro Gly Ser Arg Arg Arg Pro Cys Ala Pro Gly Ser Thr Thr  
 1          5          10          15  
 Ser Ser Gly Ser Arg Pro Pro Ser Gly Gly Pro Thr Arg Cys Gly Pro  
           20          25          30  
 Trp Ser Ala Gly Thr Pro Trp Ala Arg Cys Arg Pro Pro Gly Trp Ala  
           35          40          45  
 Arg Pro Gly Pro Ala Ser Ser Thr Thr Gly Ser Arg Pro Ser Thr Val  
           50          55          60  
 Arg Trp Ser Gly Asn Ala Ser Ser Met Pro Phe Gly Arg Arg Gly Ala  
 65          70          75          80

## 261089ST25.txt

Ala Pro Trp Ala Gly Cys Ser Pro Thr Trp Ser Arg Ala Pro Thr Thr  
85 90 95  
Gly Arg Pro Ala Ser Pro Gly Arg Ser Asn Arg Trp Arg Arg Cys Cys  
100 105 110  
Cys Arg Arg Ala Ser Gly Ala Ser Pro Arg Thr Thr Arg Ala Gly Ser  
115 120 125  
Trp Ala Val Cys Ser Ala Arg  
130 135

&lt;210&gt; 382

&lt;211&gt; 79

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 32165 right: 32401 frame: -3 size(aa): 79

&lt;400&gt; 382

Pro Pro Pro Ser Asn Glu Pro Ile Thr Trp Leu Ser Arg Pro Pro Arg  
1 5 10 15  
Asn Pro Pro Trp Leu Phe Ser Ala Met Pro Arg Arg Pro Ala Cys Ser  
20 25 30  
Ser Thr Asp Ala Ser Asp Ser Ser Ala Arg Val Arg Leu Ala Cys Gln  
35 40 45  
Ser Ser Val Pro Leu Thr Arg Ser Glu Asn Ser Pro Pro Arg Val Arg  
50 55 60  
Pro Pro Ser Ser Gln Arg Ala Leu Ser Ser Arg Cys Arg Ser Thr  
65 70 75

&lt;210&gt; 383

&lt;211&gt; 51

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 32371 right: 32523 frame: -2 size(aa): 51

&lt;400&gt; 383

Pro Cys Arg Arg Arg Pro Pro Ala Pro Gly Cys Asp Arg Arg Gln Ser  
1 5 10 15  
Arg Ser Gly Val Gly Ser Arg Arg Ile Arg Pro Cys Arg Arg Gly Pro  
20 25 30  
Arg Cys Gly Ile Arg Ser Arg Cys Ser Arg Pro Arg Arg Thr Asn Pro  
35 40 45  
Ser Pro Gly  
50

&lt;210&gt; 384

&lt;211&gt; 65

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L



&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 32380 right: 32574 frame: 2 size(aa): 65

&lt;400&gt; 384

Trp Val Arg Ser Thr Gly Ala Ala Thr Pro Ala Pro Asp Pro Ala Pro  
 1 5 10 15  
 Gly Ala Ser Thr Ala Arg Ala Asp Ser Pro Arg Ser Tyr Thr Arg Thr  
 20 25 30  
 Arg Leu Ser Ser Ile Thr Pro Gly Gly Arg Arg Pro Ala Ala Ala Trp  
 35 40 45  
 Ser Thr Ser Ala Gly Ser Arg Ser Thr Ser Pro Val Thr Gly Pro Pro  
 50 55 60

Arg  
65

&lt;210&gt; 385

&lt;211&gt; 148

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 32466 right: 32909 frame: -1 size(aa): 148

&lt;400&gt; 385

Thr Pro Ser Ser Ala Ser Trp Ser Arg Ser Ser Pro Ser Ser Leu Ala  
 1 5 10 15  
 Ser Phe Ser Gly Ser Pro Arg Pro Arg Pro Thr Gly Pro Ala Ala Gly  
 20 25 30  
 Thr Ala Pro Gly Ser Ala Arg Pro Arg Ser Pro Thr Ala Trp Ala Ser  
 35 40 45  
 Pro Gly Thr Gly Ser Val Arg Cys Trp Pro Gly Asp Thr Gly Glu Pro  
 50 55 60  
 Arg Gly Gly Ala Ser Pro Ser Pro Gly Ala Ser Ala Pro Leu Ala Gly  
 65 70 75 80  
 Ser Gln Asp Ala Ser Arg Ala His Leu Ala Gln Asp Leu Gly Arg His  
 85 90 95  
 Arg Arg Leu Asp Pro Thr Gly Glu Leu Pro Ala Pro Gly Gly Val Tyr  
 100 105 110  
 Leu Gly Gly Pro Val Thr Gly Asp Val Asp Arg Asp Pro Ala Asp Val  
 115 120 125  
 Asp His Ala Ala Ala Gly Arg Leu Pro Pro Gly Val Ile Asp Asp Ser  
 130 135 140  
 Leu Val Arg Val  
 145

&lt;210&gt; 386

&lt;211&gt; 167

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 32492 right: 32992 frame: -3 size(aa): 167

<400> 386

Pro Leu Leu Tyr Ala Ile Leu Gly Lys Ser Ala Val Glu His Gly Cys  
 1 5 10 15  
 Ser Arg Arg Ser Ser His Ser Ile Ser Ser Asp Glu His His Pro Leu  
 20 25 30  
 His Pro Gly His Asp Arg Arg Arg Leu Arg Trp Arg His Ser Leu Gly  
 35 40 45  
 His Arg Asp Pro Asp Arg Pro Gly Pro Pro Leu Ala Pro Leu Arg Gly  
 50 55 60  
 Gln Pro Gly Gln Asp Arg Arg Pro Pro Gly Arg His Pro Val Pro Gly  
 65 70 75 80  
 Pro Ser Asp Ala Gly Pro Val Thr Pro Gly Ser Pro Gly Glu Gly Pro  
 85 90 95  
 Leu Leu Pro Arg Gly His Gln Pro Arg Trp Pro Ala Ala Arg Thr Pro  
 100 105 110  
 Pro Gly Arg Ile Trp Arg Arg Ile Ser Ala Val Thr Ala Ala Trp Thr  
 115 120 125  
 Pro Arg Ala Ser Ser Pro Pro Pro Ala Ala Ser Thr Ser Val Val Pro  
 130 135 140  
 Ser Leu Ala Thr Leu Thr Val Ile Pro Pro Thr Leu Thr Met Pro Pro  
 145 150 155 160  
 Pro Ala Ala Cys Pro Arg Val  
 165

<210> 387  
 <211> 61  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 32548 right: 32730 frame: -2 size(aa): 61

<400> 387

His Arg Gly Ala Pro Gly Arg Gly Leu Ser Phe Pro Gly Gly Ile Ser  
 1 5 10 15  
 Pro Ala Gly Arg Gln Pro Gly Arg Leu Pro Gly Ala Ser Gly Ala Gly  
 20 25 30  
 Ser Arg Pro Ser Pro Pro Pro Gly Pro His Gly Arg Ala Pro Arg Pro  
 35 40 45  
 Arg Arg Arg Leu Pro Arg Trp Ser Arg His Trp Arg Arg  
 50 55 60

<210> 388  
 <211> 62  
 <212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 32561 right: 32746 frame: 3 size(aa): 62

<400> 388

Arg Asp His Arg Gly Arg Arg Arg Arg Gly Arg Gly Ala Arg Pro Trp  
1 5 10 15

Gly Pro Gly Gly Gly Asp Gly Arg Asp Pro Ala Pro Asp Ala Pro Gly  
20 25 30

Arg Arg Pro Gly Cys Arg Pro Ala Gly Leu Met Pro Pro Gly Lys Glu  
35 40 45

Arg Pro Leu Pro Gly Ala Pro Arg Cys His Arg Ala Ser Ile  
50 55 60

<210> 389

<211> 117

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 32626 right: 32976 frame: 2 size(aa): 117

<400> 389

Arg Pro Arg Ser Cys Ala Arg Cys Ala Arg Glu Ala Ser Trp Leu Pro  
1 5 10 15

Ala Ser Gly Ala Asp Ala Pro Gly Glu Gly Glu Ala Pro Pro Arg Gly  
20 25 30

Ser Pro Val Ser Pro Gly Gln His Leu Thr Asp Pro Val Pro Gly Asp  
35 40 45

Ala Gln Ala Val Gly Asp Leu Gly Leu Ala Asp Pro Gly Ala Val Pro  
50 55 60

Ala Ala Gly Pro Val Gly Arg Gly Leu Gly Asp Pro Glu Asn Asp Ala  
65 70 75 80

Asn Glu Asp Gly Asp Asp Arg Asp Gln Asp Ala Glu Asp Gly Val His  
85 90 95

Arg Arg Lys Cys Cys Gly Lys Ser Gly Gly Ser Ile His Ala Arg Pro  
100 105 110

Pro Ile Tyr Pro Val  
115

<210> 390

<211> 93

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 32734 right: 33012 frame: -2 size(aa): 93

<400> 390

261089ST25.txt

Pro Ala Cys Pro His Gly Ser Arg Phe Cys Met Leu Tyr Trp Val Asn  
 1 5 10 15  
 Arg Arg Ser Ser Met Asp Ala Pro Ala Ala Leu Pro Thr Ala Phe Pro  
 20 25 30  
 Pro Met Asn Thr Ile Leu Cys Ile Leu Val Thr Ile Val Ala Val Phe  
 35 40 45  
 Val Gly Val Ile Leu Trp Val Thr Glu Thr Pro Thr Asp Arg Ala Arg  
 50 55 60  
 Arg Trp His Arg Ser Gly Val Ser Gln Ala Lys Ile Ala Asp Arg Leu  
 65 70 75 80  
 Gly Val Thr Arg Tyr Arg Val Arg Gln Met Leu Ala Arg  
 85 90

<210> 391

<211> 90

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 32750 right: 33019 frame: 3 size(aa): 90

<400> 391

Arg Thr Arg Tyr Arg Val Thr Pro Arg Arg Ser Ala Ile Leu Ala Trp  
 1 5 10 15  
 Leu Thr Pro Glu Arg Cys Gln Arg Arg Ala Arg Ser Val Gly Val Ser  
 20 25 30  
 Val Thr Gln Arg Met Thr Pro Thr Lys Thr Ala Thr Ile Val Thr Arg  
 35 40 45  
 Met Gln Arg Met Val Phe Ile Gly Gly Asn Ala Val Gly Arg Ala Ala  
 50 55 60  
 Gly Ala Ser Met Leu Asp Arg Arg Phe Thr Gln Tyr Ser Ile Gln Lys  
 65 70 75 80  
 Arg Leu Pro Trp Gly His Ala Gly Gln Leu  
 85 90

<210> 392

<211> 159

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 32889 right: 33365 frame: 1 size(aa): 159

<400> 392

Pro Gly Cys Arg Gly Trp Cys Ser Ser Glu Glu Met Leu Trp Glu Glu  
 1 5 10 15  
 Arg Arg Glu His Pro Cys Ser Thr Ala Asp Leu Pro Ser Ile Ala Tyr  
 20 25 30  
 Arg Ser Gly Tyr Arg Gly Gly Met Pro Val Ser Cys Asn Ser Gln Ile  
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## 261089ST25.txt

35 40 45  
 Asp Leu Gly Thr Leu Arg Val Gln Val Thr Ala Thr Gly Gln Thr Ser  
 50 55 60  
 Gln Arg Ile Leu Ala Val Gln Phe Gly Asp Gly Tyr Arg Glu Arg Arg  
 65 70 75 80  
 Pro Asp Gly Ile Asn Thr Glu Val Arg Arg Trp Ser Val Ser Thr Pro  
 85 90 95  
 Pro Met Gly Ile Ala Asp Val Leu Glu Leu Glu Asp Ala Leu Arg Ala  
 100 105 110  
 Leu Gly Thr Gly Ala Phe Ala Trp Ala Pro Pro Gly Glu Asp Asp Met  
 115 120 125  
 Val Leu Trp Glu Leu Asp Pro Val Glu Trp Thr Arg Thr Tyr Gln Ala  
 130 135 140  
 Asp His Leu Ala Ser Leu Ser Phe Ala Leu Arg Ser Ala Asn Pro  
 145 150 155  
 <210> 393  
 <211> 156  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 32970 right: 33437 frame: -1 size(aa): 156

<400> 393  
 Thr Gly Arg Ser Arg His Pro Gly Pro Gly Val Pro Pro Ala Ala Arg  
 1 5 10 15  
 Cys Leu Gly Trp Gly Pro Gly Ser Trp Val Gly Arg Ala Gln Gly Lys  
 20 25 30  
 Arg Gln Ala Arg Gln Val Val Gly Leu Val Gly Ala Gly Pro Leu Asp  
 35 40 45  
 Arg Val Glu Leu Pro Glu His His Val Val Leu Ala Gly Gly Arg Pro  
 50 55 60  
 Cys Glu Arg Pro Gly Ala Gln Gly Pro Glu Arg Ile Leu Glu Leu Gln  
 65 70 75 80  
 Asp Val Arg Asp Ala His Gly Arg Gly Gly Asp Arg Pro Ala Pro His  
 85 90 95  
 Leu Gly Val Asp Ala Ile Gly Ala Ser Leu Pro Val Pro Val Pro Glu  
 100 105 110  
 Leu His Arg Lys Asp Ala Leu Gly Arg Leu Pro Arg Ser Gly Asp Leu  
 115 120 125  
 His Pro Glu Gly Ala Gln Val Asp Leu Thr Val Thr Ala Asp Arg His  
 130 135 140  
 Ala Pro Thr Val Ala Ala Ser Val Cys Tyr Thr Gly  
 145 150 155  
 <210> 394  
 <211> 227  
 <212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 32980 right: 33660 frame: 2 size(aa): 227

<400> 394

```

His Thr Glu Ala Ala Thr Val Gly Ala Cys Arg Ser Ala Val Thr Val
1      5      10      15
Arg Ser Thr Trp Ala Pro Ser Gly Cys Arg Ser Pro Leu Arg Gly Arg
20     25     30
Arg Pro Ser Ala Ser Leu Arg Cys Ser Ser Gly Thr Gly Thr Gly Ser
35     40     45
Asp Ala Pro Met Ala Ser Thr Pro Arg Cys Gly Ala Gly Arg Ser Pro
50     55     60
Pro Arg Pro Trp Ala Ser Arg Thr Ser Trp Ser Ser Arg Met Arg Ser
65     70     75     80
Gly Pro Trp Ala Pro Gly Arg Ser His Gly Arg Pro Pro Ala Arg Thr
85     90     95
Thr Trp Cys Ser Gly Ser Ser Thr Arg Ser Ser Gly Pro Ala Pro Thr
100    105    110
Arg Pro Thr Thr Trp Arg Ala Cys Arg Leu Pro Cys Ala Arg Pro Thr
115    120    125
His Glu Pro Gly Pro His Pro Arg His Arg Ala Ala Gly Gly Thr Pro
130    135    140
Gly Pro Gly Cys Arg Asp Arg Pro Val His Pro Arg Pro Val Asp Leu
145    150    155    160
Arg Ser Gly Gln Gly Ala Leu Pro Val Leu Gln Leu Glu Pro Glu Arg
165    170    175
Arg Gly Arg Pro Val Leu Arg Arg Arg Gly Val Arg Ala Asp Ala Gly
180    185    190
Arg Val Tyr Arg Leu Pro Asp Gln Gln Gln Gln Arg Thr Glu Arg Ala
195    200    205
Pro Asp Ala Gly Leu Gln Arg Arg Pro Asp Leu Asp Arg Pro Gly Gln
210    215    220
Arg Leu Gly
225

```

<210> 395

<211> 509

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 33023 right: 34549 frame: 3 size(aa): 509

<400> 395

```

Gln Ser Asp Arg Pro Gly His Pro Pro Gly Ala Gly His Arg Tyr Gly
1      5      10      15

```

## 261089ST25.txt

Ala Asp Val Pro Ala His Pro Cys Gly Ala Val Arg Gly Arg Val Pro  
 20 25 30  
 Gly Ala Thr Pro Arg Trp His Gln His Arg Gly Ala Ala Leu Val Gly  
 35 40 45  
 Leu His Pro Ala His Gly His Arg Gly Arg Pro Gly Ala Arg Gly Cys  
 50 55 60  
 Ala Pro Gly Pro Gly His Arg Gly Val Arg Met Gly Ala Pro Arg Arg  
 65 70 75 80  
 Gly Arg His Gly Ala Leu Gly Ala Arg Pro Gly Arg Val Asp Pro His  
 85 90 95  
 Leu Pro Gly Arg Pro Pro Gly Glu Pro Val Val Cys Pro Ala Leu Gly  
 100 105 110  
 Gln Pro Met Ser Pro Val Pro Ile Pro Asp Ile Glu Gln Leu Ala Gly  
 115 120 125  
 Leu Gln Asp Leu Asp Ala Val Ile Asp Leu Phe Ile Leu Asp Leu Ser  
 130 135 140  
 Ile Phe Asp Pro Gly Arg Ala Pro Tyr Arg Phe Cys Asn Trp Ser Gln  
 145 150 155 160  
 Ser Gly Gly Val Gly Leu Phe Tyr Asp Gly Glu Glu Tyr Glu Pro Met  
 165 170 175  
 Pro Val Glu Cys Thr Gly Phe Gln Ile Asn Ser Asn Ser Ala Pro Ser  
 180 185 190  
 Glu Pro Gln Met Arg Val Ser Asn Val Gly Leu Thr Trp Thr Gly Leu  
 195 200 205  
 Val Asn Ala Trp Asp Asp Leu Val Gly Ala Lys Leu Ile Arg Arg Arg  
 210 215 220  
 Val Leu Arg Arg Tyr Leu Asp Asp Gly Ala Thr Pro Ser Pro Thr Gly  
 225 230 235 240  
 His Trp Pro Asp Glu Pro Trp Phe Ile Glu Arg Lys Val Ala Glu Ser  
 245 250 255  
 Lys Leu Thr Val Thr Phe Ala Leu Ser Thr Ala Phe Ala Leu Asp Asp  
 260 265 270  
 Val Arg Leu Pro Lys Arg Leu Ala Leu Arg His Thr Cys Ser Trp Thr  
 275 280 285  
 Tyr Arg Gly Glu Gly Cys Gly Tyr Thr Gly Tyr Pro Val Ala Asp Ala  
 290 295 300  
 Arg Asn Gln Pro Leu Pro Pro Pro Met Asp Pro Ala Leu Gln Ala Phe  
 305 310 315 320  
 Tyr Asp Ala Val Ala Leu Phe Arg Ala Gln Thr Pro Val Val Gln Ala  
 325 330 335  
 Ala Glu Ala Ala Val Ala Ile Gln Glu Asn Ala Tyr Asn Asn Ser Ile  
 340 345 350  
 Glu Asp Ser Trp Ser Arg Leu Thr Thr Gly Tyr Asn Arg Asn Phe Pro  
 355 360 365  
 Tyr Ser Phe Val Phe Thr Tyr Pro Thr Gly Ser Leu Gln Ala Leu Phe  
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## 261089ST25.txt

370

375

380

Gly Val Asn Leu Ile Tyr Ser Gly Gly Val Leu Ile Pro Ala Leu Asn  
 385 390 395 400  
 Gln Thr Trp Arg Arg Gly Ala Ile Arg Ala Gln Asn Phe Asp Gly Ser  
 405 410 415  
 Ala Tyr Tyr Glu Ile Glu Gln Trp Gln Phe Asn Pro Gly Asn Arg Ala  
 420 425 430  
 Thr Ala Leu Ala Asn Leu Asn Ser Ala Arg Ser Ala Leu Ala Ala Ala  
 435 440 445  
 Arg Ala Val Leu Glu Ser Arg Arg Ala Thr Ala Leu Ser Leu Lys Ala  
 450 455 460  
 Ala Ala Asp Ala Ile Arg Asp Pro Arg Asp Gln Cys Ser Lys Thr Ile  
 465 470 475 480  
 Ala Gly Cys Arg Leu Arg Phe Phe Asp Pro Leu Thr Gly Ala Thr Leu  
 485 490 495  
 Pro Leu Pro Thr Ser Ala Phe Pro Gly Leu Gln Ile Gly  
 500 505

&lt;210&gt; 396

&lt;211&gt; 94

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 33029 right: 33310 frame: -3 size(aa): 94

&lt;400&gt; 396

Val Arg Val His Ser Thr Gly Ser Ser Ser Gln Ser Thr Met Ser Ser  
 1 5 10 15  
 Ser Pro Gly Gly Ala His Ala Asn Ala Pro Val Pro Arg Ala Arg Ser  
 20 25 30  
 Ala Ser Ser Ser Ser Arg Thr Ser Ala Met Pro Met Gly Gly Val Glu  
 35 40 45  
 Thr Asp Gln Arg Arg Thr Ser Val Leu Met Pro Ser Gly Arg Arg Ser  
 50 55 60  
 Arg Tyr Pro Ser Pro Asn Cys Thr Ala Arg Met Arg Trp Asp Val Cys  
 65 70 75 80  
 Pro Val Ala Val Thr Cys Thr Arg Arg Val Pro Arg Ser Ile  
 85 90

&lt;210&gt; 397

&lt;211&gt; 112

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 33142 right: 33477 frame: -2 size(aa): 112

&lt;400&gt; 397



## 261089ST25.txt

Gly Ala Leu Pro Gly Ser Lys Ile Asp Arg Ser Arg Met Asn Arg Ser  
 1 5 10 15  
 Ile Thr Ala Ser Arg Ser Trp Ser Pro Ala Ser Cys Ser Met Ser Gly  
 20 25 30  
 Met Gly Thr Gly Leu Met Gly Trp Pro Ser Ala Gly Gln Thr Thr Gly  
 35 40 45  
 Ser Pro Gly Gly Arg Pro Gly Arg Cys Gly Ser Thr Arg Pro Gly Arg  
 50 55 60  
 Ala Pro Arg Ala Pro Cys Arg Pro Arg Arg Gly Ala Pro Met Arg Thr  
 65 70 75 80  
 Pro Arg Cys Pro Gly Pro Gly Ala His Pro Arg Ala Pro Gly Arg Pro  
 85 90 95  
 Arg Cys Pro Trp Ala Gly Trp Arg Pro Thr Ser Ala Ala Pro Arg Cys  
 100 105 110

&lt;210&gt; 398

&lt;211&gt; 414

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 33314 right: 34555 frame: -3 size(aa): 414

&lt;400&gt; 398

Gly Ser Pro Asp Leu Glu Pro Trp Lys Gly Arg Cys Trp Gln Arg Gln  
 1 5 10 15  
 Cys Ser Ala Arg Gln Arg Ile Glu Glu Pro Glu Ala Ala Ala Gly Asp  
 20 25 30  
 Arg Leu Thr Ala Leu Val Pro Gly Val Pro Asp Gly Val Gly Arg Arg  
 35 40 45  
 Leu Glu Arg Gln Gly Arg Gly Pro Pro Arg Leu Glu His Gly Pro Gly  
 50 55 60  
 Ser Arg Gln Gly Arg Pro Gly Arg Val Glu Val Arg Gln Gly Gly Arg  
 65 70 75 80  
 Pro Val Ala Arg Ile Glu Leu Pro Leu Leu Asp Leu Val Val Gly Arg  
 85 90 95  
 Ala Val Glu Val Leu Gly Pro Asp Gly Ala Pro Pro Pro Gly Leu Val  
 100 105 110  
 Gln Gly Gly Asp Gln Asp Ala Pro Gly Val Asp Gln Val Asp Ala Glu  
 115 120 125  
 Gln Arg Leu Glu Arg Ala Gly Arg Val Arg Glu Asp Glu Ala Val Gly  
 130 135 140  
 Glu Val Ala Val Val Pro Arg Arg Gln Ala Gly Pro Ala Val Leu Asp  
 145 150 155 160  
 Ala Val Val Val Gly Val Leu Leu Asn Gly His Cys Ser Leu Gly Arg  
 165 170 175  
 Leu Asp Asp Gly Gly Leu Gly Pro Glu Gln Gly His Arg Val Val Glu  
 180 185 190

261089ST25.txt

Arg Leu Glu Arg Arg Val His Gly Trp Gly Gln Gly Leu Ile Pro Gly  
195 200 205  
Val Gly His Gly Val Pro Gly Val Ala Ala Ser Leu Ala Pro Val Gly  
210 215 220  
Pro Ala Ala Gly Val Ala Gln Gly Gln Ala Leu Gly Gln Pro Asp Val  
225 230 235 240  
Val Gln Gly Glu Arg Cys Arg Gln Gly Glu Arg Asp Gly Gln Leu Ala  
245 250 255  
Leu Gly Asp Leu Ala Leu Asp Glu Pro Arg Leu Val Arg Pro Val Ala  
260 265 270  
Cys Arg Ala Gly Arg Gly Pro Val Val Glu Val Pro Ala Gln Asp Pro  
275 280 285  
Pro Pro Asp Gln Leu Arg Pro His Gln Val Ile Pro Gly Val Asp Gln  
290 295 300  
Ala Gly Pro Gly Gln Ala Asp Val Gly Asp Pro His Leu Gly Leu Ala  
305 310 315 320  
Arg Cys Ala Val Ala Val Asp Leu Glu Ala Gly Thr Leu Asp Arg His  
325 330 335  
Arg Leu Val Leu Leu Ala Val Val Glu Gln Ala Asp Pro Ala Ala Leu  
340 345 350  
Ala Pro Val Ala Glu Pro Val Gly Arg Pro Ala Arg Ile Glu Asp Arg  
355 360 365  
Gln Val Glu Asp Glu Gln Val Asp His Gly Ile Gln Val Leu Glu Ser  
370 375 380  
Arg Gln Leu Leu Asp Val Trp Asp Gly Asp Arg Ala His Gly Leu Ala  
385 390 395 400  
Glu Arg Arg Ala Asn Asp Arg Leu Ala Arg Trp Ser Ala Trp  
405 410

<210> 399

<211> 67

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 33429 right: 33629 frame: 1 size(aa): 67

<400> 399

Ser Thr Cys Ser Ser Ser Thr Cys Arg Ser Ser Ile Arg Ala Gly Arg  
1 5 10 15  
Pro Thr Gly Ser Ala Thr Gly Ala Arg Ala Ala Gly Ser Ala Cys Ser  
20 25 30  
Thr Thr Ala Arg Ser Thr Ser Arg Cys Arg Ser Ser Val Pro Ala Ser  
35 40 45  
Arg Ser Thr Ala Thr Ala His Arg Ala Ser Pro Arg Cys Gly Ser Pro  
50 55 60  
Thr Ser Ala

65

<210> 400  
 <211> 120  
 <212> PRT  
 <213> Cyanophage S-2L  
  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 33526 right: 33885 frame: -2 size(aa): 120

&lt;400&gt; 400

Val Gln Leu Gln Val Trp Arg Arg Ala Arg Arg Leu Gly Ser Arg Thr  
 1 5 10 15  
 Ser Ser Arg Ala Asn Ala Val Asp Arg Ala Asn Val Thr Val Ser Leu  
 20 25 30  
 Leu Ser Ala Thr Leu Arg Ser Met Asn His Gly Ser Ser Gly Gln Trp  
 35 40 45  
 Pro Val Gly Leu Gly Val Ala Pro Ser Ser Arg Tyr Arg Arg Arg Thr  
 50 55 60  
 Arg Arg Arg Ile Ser Phe Ala Pro Thr Arg Ser Ser Gln Ala Leu Thr  
 65 70 75 80  
 Arg Pro Val Gln Val Arg Pro Thr Leu Glu Thr Arg Ile Trp Gly Ser  
 85 90 95  
 Leu Gly Ala Leu Leu Leu Leu Ile Trp Lys Pro Val His Ser Thr Gly  
 100 105 110  
 Ile Gly Ser Tyr Ser Ser Pro Ser  
 115 120

<210> 401  
 <211> 263  
 <212> PRT  
 <213> Cyanophage S-2L  
  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 33664 right: 34452 frame: 2 size(aa): 263

&lt;400&gt; 401

Pro Gly Gly Gly Glu Ala Asp Pro Ala Ala Gly Pro Ala Pro Val Pro  
 1 5 10 15  
 Arg Arg Arg Gly His Ala Gln Pro Asp Arg Pro Leu Ala Gly Arg Ala  
 20 25 30  
 Val Val His Arg Ala Gln Gly Arg Arg Glu Gln Ala Asp Arg His Val  
 35 40 45  
 Arg Pro Val Asp Ser Val Arg Pro Gly Arg Arg Pro Ala Ala Gln Ala  
 50 55 60  
 Pro Gly Pro Ala Pro His Leu Gln Leu Asp Leu Pro Gly Arg Gly Met  
 65 70 75 80  
 Arg Leu His Arg Val Pro Arg Gly Arg Arg Pro Glu Ser Ala Pro Ala  
 85 90 95

## 261089ST25.txt

Pro Thr His Gly Pro Gly Ala Pro Ser Val Leu Arg Arg Gly Gly Pro  
 100 105 110  
 Val Pro Gly Pro Asp Pro Arg Arg Pro Gly Gly Arg Gly Cys Ser Gly  
 115 120 125  
 His Ser Arg Glu Arg Leu Gln Gln Gln His Arg Gly Gln Leu Val Pro  
 130 135 140  
 Pro Asp Asp Gly Val Gln Pro Gln Leu Pro Leu Gln Leu Arg Leu His  
 145 150 155 160  
 Val Pro Asp Arg Leu Ala Pro Gly Ala Val Arg Arg Gln Pro Asp Leu  
 165 170 175  
 Leu Arg Gly Arg Pro Asp Pro Arg Leu Glu Pro Asp Leu Ala Glu Gly  
 180 185 190  
 Arg His Pro Gly Pro Lys Leu Arg Arg Leu Gly Leu Leu Arg Asp Arg  
 195 200 205  
 Ala Val Ala Val Gln Ser Gly Gln Pro Gly Asp Arg Pro Gly Glu Pro  
 210 215 220  
 Gln Leu Cys Pro Val Gly Pro Gly Gly Cys Pro Gly Arg Ala Arg Val  
 225 230 235 240  
 Glu Ala Gly His Gly Pro Val Ala Gln Gly Gly Gly Arg Arg His Pro  
 245 250 255  
 Gly Pro Pro Gly Pro Val Gln  
 260

&lt;210&gt; 402

&lt;211&gt; 100

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 33798 right: 34097 frame: 1 size(aa): 100

&lt;400&gt; 402

Pro Ser Arg Ser Pro Cys Arg Gln Arg Ser Pro Trp Thr Thr Ser Gly  
 1 5 10 15  
 Cys Pro Ser Ala Trp Pro Cys Ala Thr Pro Ala Ala Gly Pro Thr Gly  
 20 25 30  
 Ala Arg Asp Ala Ala Thr Pro Gly Thr Pro Trp Pro Thr Pro Gly Ile  
 35 40 45  
 Ser Pro Cys Pro His Pro Trp Thr Arg Arg Ser Lys Arg Ser Thr Thr  
 50 55 60  
 Arg Trp Pro Cys Ser Gly Pro Arg Pro Pro Ser Ser Arg Arg Pro Arg  
 65 70 75 80  
 Leu Gln Trp Pro Phe Lys Arg Thr Pro Thr Thr Thr Ala Ser Arg Thr  
 85 90 95  
 Ala Gly Pro Ala  
 100

&lt;210&gt; 403

&lt;211&gt; 112

<212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 33804 right: 34139 frame: -1 size(aa): 112

<400> 403

Arg Arg Ser Cys Arg Gly Ser Cys Gly Cys Thr Pro Ser Ser Gly Gly  
 1 5 10 15  
 Thr Ser Cys Pro Arg Cys Cys Cys Cys Arg Arg Ser Leu Glu Trp Pro  
 20 25 30  
 Leu Gln Pro Arg Pro Pro Gly Arg Arg Gly Ser Gly Pro Gly Thr Gly  
 35 40 45  
 Pro Pro Arg Arg Arg Thr Leu Gly Ala Pro Gly Pro Trp Val Gly Ala  
 50 55 60  
 Gly Ala Asp Ser Gly Arg Arg Pro Arg Gly Thr Arg Cys Ser Arg Ile  
 65 70 75 80  
 Pro Arg Pro Gly Arg Ser Ser Cys Arg Cys Gly Ala Gly Pro Gly Ala  
 85 90 95  
 Trp Ala Ala Gly Arg Arg Pro Gly Arg Thr Leu Ser Thr Gly Arg Thr  
 100 105 110

<210> 404  
 <211> 91  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 34221 right: 34493 frame: 1 size(aa): 91

<400> 404

Thr Arg Pro Gly Gly Gly Ala Pro Ser Gly Pro Lys Thr Ser Thr Ala  
 1 5 10 15  
 Arg Pro Thr Thr Arg Ser Ser Ser Gly Ser Ser Ile Arg Ala Thr Gly  
 20 25 30  
 Arg Pro Pro Trp Arg Thr Ser Thr Leu Pro Gly Arg Pro Trp Arg Leu  
 35 40 45  
 Pro Gly Pro Cys Ser Ser Arg Gly Gly Pro Arg Pro Cys Arg Ser Arg  
 50 55 60  
 Arg Arg Pro Thr Pro Ser Gly Thr Pro Gly Thr Ser Ala Val Arg Arg  
 65 70 75 80  
 Ser Pro Ala Ala Ala Ser Gly Ser Ser Ile Arg  
 85 90

<210> 405  
 <211> 95  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature

<223> New ORF = left: 34279 right: 34563 frame: -2 size(aa): 95

<400> 405

Cys Gly Lys Asp His Pro Ile Trp Ser Pro Gly Lys Ala Asp Val Gly  
 1 5 10 15  
 Asn Gly Asn Val Ala Pro Val Ser Gly Ser Lys Asn Arg Arg Arg Gln  
 20 25 30  
 Pro Ala Ile Val Leu Leu His Trp Ser Arg Gly Ser Arg Met Ala Ser  
 35 40 45  
 Ala Ala Ala Leu Ser Asp Arg Ala Val Ala Arg Leu Asp Ser Ser Thr  
 50 55 60  
 Ala Arg Ala Ala Ala Arg Ala Asp Arg Ala Glu Leu Arg Phe Ala Arg  
 65 70 75 80  
 Ala Val Ala Arg Leu Pro Gly Leu Asn Cys His Cys Ser Ile Ser  
 85 90 95

<210> 406

<211> 271

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 34456 right: 35268 frame: 2 size(aa): 271

<400> 406

Asp Asp Arg Arg Leu Pro Pro Pro Val Leu Arg Ser Ala Asp Gly Arg  
 1 5 10 15  
 Tyr Ile Ala Val Ala Asn Ile Gly Leu Ser Arg Ala Pro Asp Arg Val  
 20 25 30  
 Ile Leu Thr Ala Leu Gln Lys Asn Asp Ile Arg Met Phe Ser Arg Gly  
 35 40 45  
 Gly Leu Val Gln Glu Ala Cys Gly Phe Val Leu Gly Asp Gly Arg Val  
 50 55 60  
 Val Arg Cys Leu Asn Thr His Pro Glu Pro Glu Asn Ala Phe Gln Ile  
 65 70 75 80  
 Asp Pro Glu Ala Tyr Ala Arg Ala Asp Gly Glu His Gly Val Thr Ala  
 85 90 95  
 Val Trp His Ser His Ala Arg Leu Asp Gly Phe Ser Pro Glu Asp Gln  
 100 105 110  
 Ala Ala Ile Arg Ala Asp Gly Glu Leu Pro Trp Ile Val Tyr Cys Leu  
 115 120 125  
 Arg Thr Asp Glu Phe His Val Val Asp Pro Leu Asp His Gly Pro Leu  
 130 135 140  
 Val Gly Arg Ser Phe Cys Tyr Gly Ile Leu Asp Cys Tyr Ser Leu Val  
 145 150 155 160  
 Arg Asp Ala Leu Glu Glu Arg His Gly Val Ala Phe Pro Glu Trp His  
 165 170 175

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Arg Gly Asn Trp Gly Glu Trp Gly Arg Pro Asp Phe Thr Val Phe Asp  
 180 185 190  
 Met Gln Ala Ser Glu Phe Cys Arg Arg Val Gly Arg Glu Arg Leu Leu  
 195 200 205  
 Pro Gly Asp Ile Val Phe Met Gly Lys Asp His Thr Ser His Ile Gly  
 210 215 220  
 Ile Leu Glu Asp Ser Asp Arg Met Leu His His Leu Ala Gly Arg Arg  
 225 230 235 240  
 Ser Arg Val Glu Tyr Tyr Gly Glu Trp Trp Gln Ala Arg Thr Arg Ser  
 245 250 255  
 Ile Trp Arg Pro Ala Gly Cys Gln Pro Arg Trp Ala Ala Val Gly  
 260 265 270

&lt;210&gt; 407

&lt;211&gt; 338

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 34497 right: 35510 frame: 1 size(aa): 338

&lt;400&gt; 407

Arg Ala Leu His Cys Arg Cys Gln His Arg Pro Phe Gln Gly Ser Arg  
 1 5 10 15  
 Ser Gly Asp Pro Tyr Arg Thr Thr Glu Glu Arg His Pro Asp Val Gln  
 20 25 30  
 Pro Arg Trp Pro Arg Pro Gly Gly Leu Trp Leu Arg Pro Gly Arg Arg  
 35 40 45  
 Pro Gly Gly Pro Val Pro Gln His Pro Pro Arg Ala Gly Glu Arg Phe  
 50 55 60  
 Pro Asp Arg Pro Gly Gly Leu Arg Pro Gly Arg Arg Gly Ala Trp Gly  
 65 70 75 80  
 His Arg Arg Leu Ala Gln Pro Arg Pro Ala Arg Trp Val Gln Pro Gly  
 85 90 95  
 Gly Pro Gly Arg His Pro Gly Arg Arg Ala Pro Leu Asp Arg Leu  
 100 105 110  
 Leu Pro Ala His Arg Arg Val Ser Arg Arg Gly Pro Pro Arg Pro Arg  
 115 120 125  
 Ala Pro Gly Arg Ala Leu Val Leu Leu Arg His Pro Arg Leu Leu Gln  
 130 135 140  
 Pro Gly Ala Gly Arg Pro Gly Gly Ala Pro Trp Gly Gly Leu Pro Arg  
 145 150 155 160  
 Val Ala Pro Gly Gln Leu Gly Arg Val Gly Ala Pro Arg Leu His Arg  
 165 170 175  
 Val Arg His Ala Gly Gln Arg Val Leu Ser Ala Gly Arg Pro Gly Ala  
 180 185 190  
 Ala Ala Ala Arg Gly His Arg Leu His Gly Gln Gly Pro His Leu Ala  
 195 200 205

261089ST25.txt

His Arg Asp Pro Arg Gly Gln Arg Pro His Ala Pro Pro Pro Gly Arg  
 210 215 220  
 Gln Ala Glu Pro Gly Arg Val Leu Arg Arg Val Val Ala Gly Pro Asp  
 225 230 235 240  
 Pro Phe Asp Leu Ala Ala Gly Gly Met Pro Ala Gln Val Gly Ser Arg  
 245 250 255  
 Arg Ile Gly Pro Gln Ser Arg Gly Ala Ala Pro Met Ser Ile Thr Asn  
 260 265 270  
 Asp Glu Leu His Thr Arg Phe Thr Tyr His Pro Val Lys Glu Gly Gln  
 275 280 285  
 Thr Glu Val Tyr Gln Gln Ile Arg His Lys Ala Arg Glu Leu Ala Glu  
 290 295 300  
 Leu Met Leu His Leu Val Pro Glu Gly Arg Glu Gln Ser Thr Ala Leu  
 305 310 315 320  
 Thr Lys Val Glu Glu Ala Cys Phe Trp Ala Asn Ala Gly Val Ala Arg  
 325 330 335

Arg Thr

<210> 408  
 <211> 67  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 34506 right: 34706 frame: -1 size(aa): 67

<400> 408  
 Ala Ser Gly Ser Ile Trp Lys Ala Phe Ser Gly Ser Gly Trp Val Leu  
 1 5 10 15  
 Arg His Arg Thr Thr Arg Pro Ser Pro Arg Thr Lys Pro Gln Ala Ser  
 20 25 30  
 Trp Thr Arg Pro Pro Arg Leu Asn Ile Arg Met Ser Phe Phe Cys Ser  
 35 40 45  
 Ala Val Arg Ile Thr Arg Ser Gly Ala Leu Glu Arg Pro Met Leu Ala  
 50 55 60  
 Thr Ala Met  
 65

<210> 409  
 <211> 106  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 34553 right: 34870 frame: 3 size(aa): 106

<400> 409  
 Ser Leu Pro His Tyr Arg Arg Thr Thr Ser Gly Cys Ser Ala Glu Val  
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## 261089ST25.txt

```

1           5           10           15
Ala Ser Ser Arg Arg Pro Val Ala Ser Ser Trp Ala Thr Ala Gly Trp
      20           25           30
Ser Gly Ala Ser Thr Pro Thr Pro Ser Arg Arg Thr Leu Ser Arg Ser
      35           40           45
Thr Arg Arg Pro Thr Pro Gly Gln Thr Gly Ser Met Gly Ser Pro Pro
      50           55           60
Ser Gly Thr Ala Thr Pro Gly Ser Met Gly Ser Ala Arg Arg Thr Arg
      65           70           75           80
Pro Pro Ser Gly Pro Thr Ala Ser Ser Pro Gly Ser Ser Thr Ala Cys
      85           90           95
Ala Pro Thr Ser Phe Thr Ser Trp Thr Pro
      100          105

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<210> 410
<211> 101
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 34567 right: 34869 frame: -2 size(aa): 101

```

```

<400> 410
Gly Val His Asp Val Lys Leu Val Gly Ala Gln Ala Val Asp Asp Pro
1           5           10           15
Gly Glu Leu Ala Val Gly Pro Asp Gly Gly Leu Val Leu Arg Ala Glu
      20           25           30
Pro Ile Glu Pro Gly Val Ala Val Pro Asp Gly Gly Asp Pro Met Leu
      35           40           45
Pro Val Cys Pro Gly Val Gly Leu Arg Val Asp Leu Glu Ser Val Leu
      50           55           60
Arg Leu Gly Val Gly Val Glu Ala Pro Asp His Pro Ala Val Ala Gln
      65           70           75           80
Asp Glu Ala Thr Gly Leu Leu Asp Glu Ala Thr Ser Ala Glu His Pro
      85           90           95
Asp Val Val Leu Leu
      100

```

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<210> 411
<211> 80
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 34778 right: 35017 frame: -3 size(aa): 80

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<400> 411
Ser Arg Gly Ala Pro Thr Arg Pro Ser Cys Pro Gly Ala Thr Leu Gly
1           5           10           15

```

261089ST25.txt

Arg Pro Pro His Gly Ala Pro Pro Gly Arg Pro Ala Pro Gly Cys Ser  
 20 25 30  
 Ser Arg Gly Cys Arg Ser Arg Thr Ser Ala Arg Pro Gly Ala Arg Gly  
 35 40 45  
 Leu Gly Gly Pro Arg Arg Glu Thr Arg Arg Cys Ala Gly Ser Arg Arg  
 50 55 60  
 Ser Arg Gly Ala Arg Arg Arg Pro Gly Trp Arg Pro Gly Pro Pro Gly  
 65 70 75 80

<210> 412

<211> 144

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 34873 right: 35304 frame: -2 size(aa): 144

<400> 412

Ser Thr Trp Ala Gln Arg Leu Ala Thr Val Ala Leu Ser Tyr Gly Cys  
 1 5 10 15  
 Pro Pro Gly Leu Ala Ser Arg Arg Pro Pro Asp Arg Thr Gly Pro Gly  
 20 25 30  
 Leu Pro Pro Leu Ala Val Val Leu Asp Pro Ala Pro Pro Ala Gly Gln  
 35 40 45  
 Val Val Glu His Ala Val Ala Val Leu Glu Asp Pro Asp Val Arg Gly  
 50 55 60  
 Val Val Leu Ala His Glu Asp Asp Val Pro Gly Gln Gln Pro Leu Pro  
 65 70 75 80  
 Ala Tyr Pro Pro Thr Glu Leu Ala Gly Leu His Val Glu His Gly Glu  
 85 90 95  
 Val Gly Ala Pro Pro Leu Ala Pro Val Ala Pro Val Pro Leu Trp Glu  
 100 105 110  
 Gly His Pro Met Ala Leu Leu Gln Gly Val Pro His Gln Ala Val Ala  
 115 120 125  
 Val Glu Asp Ala Val Ala Glu Arg Ala Pro Asp Gln Gly Pro Val Val  
 130 135 140

<210> 413

<211> 62

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 34874 right: 35059 frame: 3 size(aa): 62

<400> 413

Thr Thr Gly Pro Trp Ser Gly Ala Arg Ser Ala Thr Ala Ser Ser Thr  
 1 5 10 15  
 Ala Thr Ala Trp Cys Gly Thr Pro Trp Arg Ser Ala Met Gly Trp Pro  
 20 25 30

261089ST25.txt

Ser Gln Ser Gly Thr Gly Ala Thr Gly Ala Ser Gly Gly Ala Pro Thr  
35 40 45

Ser Pro Cys Ser Thr Cys Arg Pro Ala Ser Ser Val Gly Gly  
50 55 60

<210> 414

<211> 88

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 34926 right: 35189 frame: -1 size(aa): 88

<400> 414

Tyr Ser Thr Arg Leu Arg Leu Pro Ala Arg Trp Trp Ser Met Arg Ser  
1 5 10 15

Leu Ser Ser Arg Ile Pro Met Cys Glu Val Trp Ser Leu Pro Met Lys  
20 25 30

Thr Met Ser Pro Gly Ser Ser Arg Ser Arg Pro Thr Arg Arg Gln Asn  
35 40 45

Ser Leu Ala Cys Met Ser Asn Thr Val Lys Ser Gly Arg Pro His Ser  
50 55 60

Pro Gln Leu Pro Arg Cys His Ser Gly Lys Ala Thr Pro Trp Arg Ser  
65 70 75 80

Ser Arg Ala Ser Arg Thr Arg Leu  
85

<210> 415

<211> 67

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 35063 right: 35263 frame: 3 size(aa): 67

<400> 415

Ala Gly Ser Gly Cys Cys Pro Gly Thr Ser Ser Ser Trp Ala Arg Thr  
1 5 10 15

Thr Pro Arg Thr Ser Gly Ser Ser Arg Thr Ala Thr Ala Cys Ser Thr  
20 25 30

Thr Trp Pro Ala Gly Gly Ala Gly Ser Ser Thr Thr Ala Ser Gly Gly  
35 40 45

Arg Pro Gly Pro Val Arg Ser Gly Gly Arg Arg Asp Ala Ser Pro Gly  
50 55 60

Gly Gln Pro  
65

<210> 416

<211> 79

<212> PRT

<213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 35099 right: 35335 frame: -3 size(aa): 79

<400> 416

Val Asn Arg Val Trp Ser Ser Ser Leu Val Ile Asp Met Gly Ala Ala  
 1 5 10 15  
 Pro Arg Asp Cys Gly Pro Ile Leu Arg Leu Pro Thr Trp Ala Gly Ile  
 20 25 30  
 Pro Pro Ala Ala Arg Ser Asn Gly Ser Gly Pro Ala Thr Thr Arg Arg  
 35 40 45  
 Ser Thr Arg Pro Gly Ser Ala Cys Arg Pro Gly Gly Gly Ala Cys Gly  
 50 55 60  
 Arg Cys Pro Arg Gly Ser Arg Cys Ala Arg Cys Gly Pro Cys Pro  
 65 70 75

<210> 417  
 <211> 112  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 35193 right: 35528 frame: -1 size(aa): 112

<400> 417

Arg Trp Phe Ile Cys Ser Gly Ala Ala Gly Asp Ala Gly Ile Gly Pro  
 1 5 10 15  
 Glu Ala Gly Leu Leu Asp Leu Gly Gln Gly Ser Arg Leu Leu Pro Pro  
 20 25 30  
 Leu Gly His Gln Val Glu His Glu Leu Gly Glu Leu Pro Gly Leu Val  
 35 40 45  
 Pro Asp Leu Leu Val Asp Phe Arg Leu Pro Leu Leu Asp Gly Val Val  
 50 55 60  
 Gly Glu Pro Gly Val Glu Leu Val Val Gly Asp Arg His Gly Arg Ser  
 65 70 75 80  
 Ala Ser Arg Leu Trp Pro Tyr Pro Thr Ala Ala His Leu Gly Trp His  
 85 90 95  
 Pro Ala Gly Arg Gln Ile Glu Arg Val Arg Ala Cys His His Ser Pro  
 100 105 110

<210> 418  
 <211> 84  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 35267 right: 35518 frame: 3 size(aa): 84

<400> 418

## 261089ST25.txt

Asp Arg Ala Thr Val Ala Arg Arg Cys Ala His Val Asp His Gln Arg  
 1 5 10 15  
 Arg Ala Pro His Pro Val His Leu Pro Pro Arg Gln Gly Gly Ala Asp  
 20 25 30  
 Gly Ser Leu Pro Ala Asp Pro Ala Gln Gly Pro Gly Ala Arg Arg Ala  
 35 40 45  
 His Ala Pro Pro Gly Ala Arg Gly Ala Gly Ala Val Asp Cys Pro Asp  
 50 55 60  
 Gln Gly Arg Gly Gly Leu Leu Leu Gly Gln Cys Arg Arg Arg Pro Pro  
 65 70 75 80  
 His Leu Ser Arg

&lt;210&gt; 419

&lt;211&gt; 61

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 35272 right: 35454 frame: 2 size(aa): 61

&lt;400&gt; 419

Gly His Ser Arg Glu Ala Leu Arg Pro Cys Arg Ser Pro Thr Thr Ser  
 1 5 10 15  
 Ser Thr Pro Gly Ser Pro Thr Thr Pro Ser Arg Arg Gly Arg Arg Lys  
 20 25 30  
 Ser Thr Ser Arg Ser Gly Thr Arg Pro Gly Ser Ser Pro Ser Ser Cys  
 35 40 45  
 Ser Thr Trp Cys Pro Arg Gly Gly Ser Ser Arg Leu Pro  
 50 55 60

&lt;210&gt; 420

&lt;211&gt; 54

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 35372 right: 35533 frame: -3 size(aa): 54

&lt;400&gt; 420

Arg Ser Ala Gly Ser Ser Ala Gln Val Arg Arg Ala Thr Pro Ala Leu  
 1 5 10 15  
 Ala Gln Lys Gln Ala Ser Ser Thr Leu Val Arg Ala Val Asp Cys Ser  
 20 25 30  
 Arg Pro Ser Gly Thr Arg Trp Ser Met Ser Ser Ala Ser Ser Arg Ala  
 35 40 45  
 Leu Cys Arg Ile Cys Trp  
 50

&lt;210&gt; 421

&lt;211&gt; 253

<212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 35413 right: 36171 frame: -2 size(aa): 253

<400> 421

Ala Ser Tyr Glu Leu Pro Arg Asn Glu Ala Gln Glu Thr Pro Gly Ala  
 1 5 10 15  
 Ala His Val Asp Arg Ala Ala Asp Arg Gln Val Ala Gln Gly Glu Ala  
 20 25 30  
 Asp His Glu Arg Val Leu Asp Pro Pro Glu Ala Val Asp His Arg Asp  
 35 40 45  
 Arg Ala Pro Leu Ala Pro Arg Ala Gly Gly Val Ala Val Glu Ala Arg  
 50 55 60  
 Leu Gln Leu Leu Gly Val Gly Ile Asp Arg Arg Pro Gly Arg Pro Gly  
 65 70 75 80  
 Glu Glu Ala Ser Asp Ala Pro Gln His Gln Gly Thr Ala Gly Gln Gln  
 85 90 95  
 Gln Ala Arg Gly Arg Gln Ala Gln Glu Ala Asp Ala Pro Gly Glu Arg  
 100 105 110  
 Ala Gln Gly Asp Lys Arg Asp Ala Gly Gln Asp Pro Pro Glu Ala Ala  
 115 120 125  
 Thr Ala Gly Gln Asp Arg Gly Lys His Gln Arg Leu Pro Gly Asp Ala  
 130 135 140  
 Arg Leu Gly Pro Val Leu Val Gln Ala Pro Gly Ile Val Arg His Asp  
 145 150 155 160  
 Pro Pro Ala Asp Ala Pro Pro Gly Leu Leu Asp His Pro Gly Pro Glu  
 165 170 175  
 Gly Arg Val Gln Gly Ala Glu Gly Pro Asp Arg Leu Gly Arg Arg Leu  
 180 185 190  
 Asn Asp Lys Pro Val Asp Ala Ala Glu Leu Ser Ala Glu Gly Ala Gln  
 195 200 205  
 Glu Leu Asp Arg Asp Val Ala Leu Val His Leu Leu Arg Cys Gly Gly  
 210 215 220  
 Arg Arg Arg His Trp Pro Arg Ser Arg Pro Pro Arg Pro Trp Ser Gly  
 225 230 235 240  
 Gln Ser Thr Ala Pro Ala Pro Arg Ala Pro Gly Gly Ala  
 245 250

<210> 422  
 <211> 236  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 35458 right: 36165 frame: 2 size(aa): 236

## 261089ST25.txt

&lt;400&gt; 422

Pro Arg Ser Arg Arg Pro Ala Ser Gly Pro Met Pro Ala Ser Pro Ala  
 1 5 10 15  
 Ala Pro Glu Gln Met Asn Gln Arg Tyr Val Thr Ile Lys Leu Leu Gly  
 20 25 30  
 Ala Phe Gly Arg Glu Phe Gly Arg Ile His Arg Leu Val Val Glu Thr  
 35 40 45  
 Pro Ala Glu Ala Val Arg Ala Leu Cys Thr Leu Tyr Pro Ala Phe Arg  
 50 55 60  
 Pro Arg Val Ile Glu Gln Ala Gly Arg Gly Ile Gly Trp Arg Ile Val  
 65 70 75 80  
 Thr Asp Asp Pro Arg Gly Leu Asp Glu Asp Arg Ala Gln Ala Gly Ile  
 85 90 95  
 Pro Gly Gln Thr Leu Val Phe Ala Pro Ile Leu Thr Gly Arg Gly Gly  
 100 105 110  
 Phe Gly Arg Ile Leu Ala Gly Val Ala Phe Ile Ala Leu Gly Ala Phe  
 115 120 125  
 Thr Gly Gly Ile Gly Phe Leu Gly Leu Ser Ser Ser Leu Leu Leu  
 130 135 140  
 Thr Gly Gly Ala Leu Val Leu Gly Gly Val Ala Gly Leu Leu Thr Arg  
 145 150 155 160  
 Thr Pro Arg Ala Pro Val Asp Ala Asp Thr Lys Gln Leu Glu Ser Ser  
 165 170 175  
 Leu Tyr Ser Asn Ala Ala Gly Thr Gly Gly Gln Gly Ser Pro Val Pro  
 180 185 190  
 Val Ile Tyr Gly Leu Arg Arg Val Glu Asn Pro Leu Val Ile Ser Phe  
 195 200 205  
 Ser Leu Gly Asn Leu Pro Ile Ser Arg Pro Ile Asn Val Ser Gly Ser  
 210 215 220  
 Arg Gly Leu Leu Gly Leu Val Ala Gly Gln Phe Val  
 225 230 235

&lt;210&gt; 423

&lt;211&gt; 152

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 35532 right: 35987 frame: -1 size(aa): 152

&lt;400&gt; 423

Arg Leu Asp Ser Ser Cys Leu Val Ser Ala Ser Thr Gly Ala Arg Gly  
 1 5 10 15  
 Val Leu Val Arg Arg Pro Ala Thr Pro Pro Ser Thr Arg Ala Pro Pro  
 20 25 30  
 Val Ser Ser Arg Leu Glu Asp Asp Arg Pro Arg Lys Pro Met Pro Pro  
 35 40 45

261089ST25.txt

Val Asn Ala Pro Arg Ala Ile Asn Ala Thr Pro Ala Arg Ile Arg Pro  
 50 55 60  
 Lys Pro Pro Arg Pro Val Arg Ile Gly Ala Asn Thr Ser Val Cys Pro  
 65 70 75 80  
 Gly Met Pro Ala Trp Ala Arg Ser Ser Ser Arg Pro Arg Gly Ser Ser  
 85 90 95  
 Val Thr Ile Arg Gln Pro Met Pro Arg Pro Ala Cys Ser Ile Thr Arg  
 100 105 110  
 Gly Arg Lys Ala Gly Tyr Arg Val Gln Arg Ala Arg Thr Ala Ser Ala  
 115 120 125  
 Gly Val Ser Thr Thr Ser Arg Trp Met Arg Pro Asn Ser Arg Pro Lys  
 130 135 140  
 Ala Pro Arg Ser Leu Ile Val Thr  
 145 150

<210> 424  
 <211> 93  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 35543 right: 35821 frame: -3 size(aa): 93

<400> 424  
 Thr Arg Arg Arg Pro Gly Ser Ala Arg Ser Arg His Gly Arg Ser Gly  
 1 5 10 15  
 Ser Gly Gln Thr Pro Ala Ser Ala Arg Gly Cys Pro Pro Gly Pro Gly  
 20 25 30  
 Pro Arg Pro Gly Pro Gly Asp Arg Pro Ser Arg Ser Ala Ser Arg Cys  
 35 40 45  
 Pro Ala Arg Pro Ala Arg Ser Pro Gly Ala Gly Arg Pro Gly Thr Gly  
 50 55 60  
 Cys Arg Gly Pro Gly Pro Pro Arg Pro Ala Ser Gln Arg Gln Ala Gly  
 65 70 75 80  
 Gly Cys Gly Arg Thr Leu Gly Arg Arg Arg Pro Gly Ala  
 85 90

<210> 425  
 <211> 1456  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 35598 right: 39965 frame: 1 size(aa): 1456

<400> 425  
 Asp Ala Gly Arg Gly Gly Pro Gly Pro Leu His Pro Val Pro Gly Leu  
 1 5 10 15  
 Pro Ala Pro Gly Asp Arg Ala Gly Arg Ala Gly His Arg Leu Ala Asp  
 20 25 30



## 261089ST25.txt

Arg Asp Gly Arg Ser Pro Gly Pro Gly Arg Gly Pro Gly Pro Gly Gly  
 35 40 45  
 His Pro Arg Ala Asp Ala Gly Val Cys Pro Asp Pro Asp Arg Pro Trp  
 50 55 60  
 Arg Leu Arg Ala Asp Pro Gly Arg Arg Arg Val Tyr Arg Pro Gly Arg  
 65 70 75 80  
 Val His Arg Gly His Arg Leu Pro Gly Pro Val Val Leu Glu Pro Ala  
 85 90 95  
 Ala Asp Arg Arg Cys Pro Gly Ala Gly Gly Arg Arg Trp Pro Pro His  
 100 105 110  
 Gln Asp Ala Pro Gly Ala Gly Arg Cys Arg His Gln Ala Ala Gly Val  
 115 120 125  
 Glu Pro Leu Gln Gln Arg Arg Arg His Gly Gly Pro Gly Glu Pro Gly  
 130 135 140  
 Pro Gly Asp Leu Arg Pro Pro Ala Gly Arg Glu Pro Ala Arg Asp Gln  
 145 150 155 160  
 Leu Leu Leu Gly Gln Pro Ala Asp Gln Pro Pro Asp Gln Arg Glu Arg  
 165 170 175  
 Leu Pro Gly Ser Pro Gly Pro Arg Cys Gly Ala Val Arg Met Lys Leu  
 180 185 190  
 Ile Ser Gly Ala Gly Gly Ile Gly Gly Gly Gly Thr Lys Lys Pro Arg  
 195 200 205  
 Ala Pro Ile Thr Ser Pro Asp Ser Ala Phe Leu Arg Ser Ile Ser Phe  
 210 215 220  
 Ala Gln Met Gln Phe Leu Leu Cys Glu Gly Pro Ile Trp Gly Pro Lys  
 225 230 235 240  
 Glu Gly Arg Ser Trp Gly Gly Leu Leu Ala Ser Thr Tyr Leu Asp Asp  
 245 250 255  
 Thr Pro Leu Ser Val Arg Gly Leu Gly Gly Thr Val Pro Val Glu Asp  
 260 265 270  
 Leu Val Leu Ser Tyr Gly Thr Phe Asp Gln Thr Ala Val Pro Gly Tyr  
 275 280 285  
 Gly Val Gln Trp Asn Thr Ile Gly Val Gly Gln Ser Val Lys Ala Ser  
 290 295 300  
 Phe Pro Val Phe Ala Thr Ala Met Pro Ser Asp Pro Thr Thr Gln His  
 305 310 315 320  
 Arg Ala Arg Val Val Leu Thr Trp Glu Ala Leu Leu Val Ala Phe Lys  
 325 330 335  
 Gln Thr Gly Asp Val Val Glu Ala Gln Val Pro Tyr Leu Ile Asp Tyr  
 340 345 350  
 Thr Asp Ala Asn Gly Val Val Arg Leu Val Phe Ala Gly Phe Thr Phe  
 355 360 365  
 Gly Lys Phe Ser Gly Pro Phe Gln Arg Glu His Glu Trp Asp Leu Ala  
 370 375 380  
 Gly Pro Gly Pro Trp Val Val Arg Val Met Arg Met Ala Ala Asp Asp  
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385          390          395          400
Asp Ala Leu Glu Thr Pro Ile Ala Ser Phe Arg Ser Ala Phe Ser Phe
      405      410      415
Thr Asn Leu Ser Phe Gly Pro Val Leu Ser Leu Gly Arg Arg Tyr Ser
      420      425      430
Ala Thr Leu Thr Leu Ala Ala Arg Ala Asp Arg Tyr Ser Asn Leu Pro
      435      440      445
Ala Val Ala Ile Asp Leu Tyr Gly Lys Ile Cys Lys Val Pro Thr Asn
      450      455      460
Tyr Asp Pro Trp Ala Gly Thr Tyr Ser Gly Val Trp Asp Gly Ser Phe
465      470      475      480
Lys Glu Asp Trp Thr Asp Asn Pro Ala Trp Cys Phe Tyr Asp Met Val
      485      490      495
Thr Asn Pro Arg Tyr Gly Leu Gly Glu Ser Ile Asp Pro Val Leu Ile
      500      505      510
Asp Lys Trp Ser Leu Tyr Ser Ile Gly Gln Tyr Cys Asp Gly Leu Val
      515      520      525
Pro Ala Val Gly Gly Gly Leu Glu Arg Arg Phe Arg Cys Asn Leu Ile
      530      535      540
Leu Ala Ala Gln Asn Asp Ala Trp Val Val Leu Gln Gln Leu Ala Ser
545      550      555      560
Ile Phe Arg Gly Gln Ile Phe Trp Ser Ala Gly Leu Val Val Ser Thr
      565      570      575
Gln Asp Ala Pro Gly Asp Phe Leu Tyr Thr Phe Asn Pro Ser Asn Val
      580      585      590
Glu Gln Thr Val Asp Asp Ser Gly Ala Val Val Gln Pro Cys Phe Glu
      595      600      605
Tyr Glu Gly Thr Ala Lys Arg Thr Arg His Thr Val Cys Leu Val Ser
610      615      620
Trp Asp Asp Pro Ala Asn Ala Tyr Gln Pro Arg Val Glu Tyr Ile Ala
625      630      635      640
Asp Ser Asp Ala Leu Ala Arg Leu Gly Tyr Arg Pro Leu Glu Leu Arg
      645      650      655
Leu Asn Gly Ile Thr Thr Arg Gly Gln Ala Leu Arg Thr Ala Gln Trp
      660      665      670
Ala Leu Leu Ser Glu Ala Ile Leu Asp Asp Thr Val Thr Phe Lys Val
      675      680      685
Gly Ala Ile Gly Met Ala Leu Arg Pro Gly Asp Leu Val Lys Val Met
      690      695      700
Asp Pro Asp Lys Gly Gly Val Arg Phe Gly Gly Arg Val Val Ala Gln
705      710      715      720
Asp Gly Asp Thr Ile Thr Leu Asp Ala Ala Pro Pro Thr Pro Leu Ala
      725      730      735
Gly Trp Ala Gly Gly Leu Phe Tyr Trp Gln Ser Gly Ala Gly Leu Pro
      740      745      750

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Arg Val Asn Val Ala Gly Val Ser Gly Ala Val Val Thr Val Ser Gly  
 755 760 765  
 Trp Gly Asp Asp Ser Arg Pro Thr Pro Gly Met Pro Trp Leu Leu Glu  
 770 775 780  
 Val Pro Asn Leu Glu Ala Gln Pro Phe Arg Ile Leu Gly Ile Glu Glu  
 785 790 795 800  
 Leu Gly Gln Asn Arg Tyr Ala Val Thr Ala Leu Arg Tyr Arg Ser Asp  
 805 810 815  
 Ile Tyr Asp Arg Val Asp Phe Asp Thr Pro Leu Ser Asp Asp Glu Asp  
 820 825 830  
 Tyr Leu Phe Lys Leu Leu Asp Pro Leu Pro Pro Thr Ile Leu Asn Ala  
 835 840 845  
 Gln Ile Val Trp Asp Asn Ser Gln Ala Lys Leu Glu Val Asn Trp Arg  
 850 855 860  
 Pro Gln Asp Arg Val Phe Val Asp Gly Gly Phe Asp Leu Ser Thr Ser  
 865 870 875 880  
 Tyr His Arg Leu Gln Tyr Gln Arg Gly Glu Val Gly Ala Gly Gly Glu  
 885 890 895  
 Val Thr Trp Thr Asn Gln Trp Ala Glu Val Asp Arg Gln Thr Asp Thr  
 900 905 910  
 Thr Glu Thr Ile Pro Leu Val Gly Tyr Gln Ala Gln Thr Arg Tyr Lys  
 915 920 925  
 Val Arg Met Ala Ser Val Gly Lys Ala Gly Ala Glu Ser Leu Trp Ser  
 930 935 940  
 Ala Glu Leu Glu Ala Thr Pro Leu Glu Val Trp Phe Pro Ile Pro Asp  
 945 950 955 960  
 Phe Glu Ser Ile Val Pro His Pro Gly Gly Glu Thr Gly Pro Ala Gly  
 965 970 975  
 Val Leu Ser His Thr Asn Leu Ala Thr Gly Gly His Leu Trp Thr Trp  
 980 985 990  
 Lys Ile Phe Thr Gln Val Pro Pro Tyr Ala Arg Ser Ile Glu Val Trp  
 995 1000 1005  
 Gly Arg Pro Val Gly Val Pro Leu Pro Asp Gly Val Thr Thr Asp  
 1010 1015 1020  
 Glu Asp Gly Tyr Ile Leu Leu Gly Thr Ala Ala Pro Asn Ala Gly  
 1025 1030 1035  
 Val Glu Ala Leu Leu Pro Val Ala Ala Thr Trp Asp Val Arg Ala  
 1040 1045 1050  
 Arg Leu Thr Thr Phe Val Pro Gly Leu Glu Gly Arg Ser Phe Met  
 1055 1060 1065  
 Leu Asp Met Val Asp Arg Leu Glu Ile Val Pro Pro Thr Pro Thr  
 1070 1075 1080  
 Glu Phe Arg Leu Val Thr Glu Gln Asp Gly Gln Ser Arg Met Gly  
 1085 1090 1095  
 Ser Arg Arg Phe Ser Trp Leu Met Pro Asp Pro Pro Pro Phe Ala  
 1100 1105 1110

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Glu	Arg	Trp	Gly	Gly	Gly	Leu	Val	Ser	Asp	Ile	Ala	Gly	Phe	Glu
	1115					1120					1125			
Val	Arg	Tyr	Arg	Ser	Gly	Val	Asp	Val	Gly	Trp	Glu	Gly	Ala	Phe
	1130					1135					1140			
Pro	Leu	Leu	Ser	Asp	Gly	Val	Pro	Gly	Asp	Thr	Phe	Trp	Phe	Glu
	1145					1150					1155			
Thr	His	Leu	Met	Asp	Tyr	Gly	Thr	Phe	Thr	Val	Met	Leu	Arg	Ala
	1160					1165					1170			
Arg	Asp	Arg	Thr	Gly	Trp	Val	Ser	Asp	Glu	Met	Ala	Val	Val	Thr
	1175					1180					1185			
Val	Gly	Ile	Gly	Gln	Pro	Leu	Pro	Thr	Asn	Val	Leu	Thr	Leu	Leu
	1190					1195					1200			
Asp	Leu	Ser	Leu	Glu	Gly	Trp	Pro	Gly	Asp	Leu	Ala	Asn	Gly	Thr
	1205					1210					1215			
Val	Val	Gly	Ser	Thr	Ser	Pro	Leu	Phe	Tyr	Phe	Pro	Pro	Thr	Thr
	1220					1225					1230			
Glu	Asp	Leu	Tyr	Glu	Ala	Pro	Leu	Glu	Glu	Ala	Ile	Tyr	Ser	Gly
	1235					1240					1245			
Arg	Ser	Gly	Gly	Glu	Leu	Val	Gln	Asn	Asp	Pro	Ala	Gln	Pro	Met
	1250					1255					1260			
Val	Tyr	Arg	Ala	Leu	Leu	Glu	Val	Glu	Val	Asp	Gly	Ser	Ala	Leu
	1265					1270					1275			
Leu	Ile	Tyr	Thr	Glu	Ser	Asp	Thr	Gly	Ser	Tyr	Arg	Trp	Arg	Leu
	1280					1285					1290			
Glu	Asp	Ile	Ser	Thr	Val	Gly	Leu	Gly	Leu	Arg	Tyr	Val	Ala	Pro
	1295					1300					1305			
Thr	Thr	Asp	Pro	Met	Tyr	Asp	Val	Ala	Glu	Glu	Ala	Pro	Phe	His
	1310					1315					1320			
Leu	Gly	Glu	Phe	Leu	Ser	Gly	Gly	Ala	Gly	Leu	His	Pro	Tyr	Ala
	1325					1330					1335			
Pro	His	Gln	Lys	Leu	Thr	Ala	Gly	Leu	Trp	Gln	Ile	Ser	Leu	Glu
	1340					1345					1350			
Ala	Ile	Ala	Ser	Thr	Thr	Asn	Val	Pro	Ala	Arg	Ile	Gln	Asp	Val
	1355					1360					1365			
Asp	Val	Val	Leu	Asp	Val	Pro	Asp	Val	Val	Trp	Thr	Ile	Glu	Asp
	1370					1375					1380			
Tyr	Glu	Ala	Gly	Val	Gly	Val	Thr	Ser	Val	Pro	Leu	Pro	Pro	Gly
	1385					1390					1395			
Leu	Phe	Arg	Arg	Val	Lys	Ala	Val	Ser	Met	Ala	Val	Gln	Asp	Asp
	1400					1405					1410			
Thr	Val	Ala	Ala	Gly	Val	Ala	Val	Gly	Gly	Arg	Ile	Val	Tyr	Lys
	1415					1420					1425			
Gly	Thr	Asp	Arg	Ile	Asp	Leu	Arg	Thr	Val	Asp	Ala	Ser	Gly	Ala
	1430					1435					1440			
Asp	Thr	Ala	Ala	Leu	Val	Asp	Leu	Ile	Val	Val	Gly	Tyr		

1445

1450

<210> 426  
<211> 602  
<212> PRT  
<213> Cyanophage S-2L  
  
<220>  
<221> misc\_feature  
<223> New ORF = left: 36042 right: 37847 frame: -1 size(aa): 602

<400> 426

Pro Gly Pro Arg Leu Pro Ile Glu Gln Pro Ser Arg Pro Ala Gly Glu  
1 5 10 15  
Gly Cys Arg Gly Cys Arg Val Glu Arg Asp Arg Val Ala Val Leu Gly  
20 25 30  
Asn His Pro Thr Ala Glu Ala Asp Pro Ala Leu Val Arg Val His Asp  
35 40 45  
Leu Asp Lys Ile Pro Arg Ala Gln Gly His Ala Asp Gly Ala His Leu  
50 55 60  
Glu Arg His Arg Val Val Gln Asp Arg Leu Arg Gln Glu Arg Pro Leu  
65 70 75 80  
Gly Arg Pro Gln Gly Leu Pro Pro Gly Gly Asp Ala Val Glu Pro Glu  
85 90 95  
Leu Gln Arg Pro Val Ala Lys Ala Gly Gln Gly Ile Ala Val Arg Asp  
100 105 110  
Val Leu His Pro Gly Leu Val Gly Val Gly Arg Val Val Pro Gly Asp  
115 120 125  
Gln Thr Asp Gly Val Pro Gly Ala Phe Gly Arg Ala Leu Ile Leu Glu  
130 135 140  
Ala Gly Leu Asp Asp Arg Ala Arg Val Val Asp Gly Leu Leu Asp Val  
145 150 155 160  
Gly Trp Val Glu Arg Val Gln Glu Val Pro Gly Gly Val Leu Gly Ala  
165 170 175  
Asp His Gln Ala Gly Thr Pro Lys Asp Leu Pro Pro Glu Asp Arg Arg  
180 185 190  
Gln Leu Leu Glu Asp His Pro Gly Val Val Leu Gly Gly Gln Asp Gln  
195 200 205  
Val Ala Pro Lys Pro Pro Leu Gln Pro Pro Ala Asp Gly Gly His Gln  
210 215 220  
Ala Val Ala Val Leu Ala Asp Gly Ile Glu Gly Pro Leu Val Asp Gln  
225 230 235 240  
His Arg Ile Asp Arg Leu Ala Gln Ala Val Pro Gly Val Arg His His  
245 250 255  
Val Val Glu Ala Pro Gly Gly Val Val Gly Pro Val Leu Leu Glu Ala  
260 265 270  
Pro Val Pro His Pro Ala Val Gly Ala Gly Pro Gly Val Val Val Arg  
275 280 285

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Gly Tyr Leu Ala Asp Leu Ala Val Gln Val Asp Gly Asp Arg Arg Gln  
 290 295 300  
 Val Gly Val Pro Val Arg Pro Gly Gly Gln Gly Glu Arg Gly Thr Val  
 305 310 315 320  
 Pro Ala Pro Gln Arg Gln His Arg Ala Lys Ala Glu Ile Arg Glu Ala  
 325 330 335  
 Glu Arg Arg Ala Glu Arg Arg Asp Arg Arg Phe Glu Gly Val Val Val  
 340 345  
 Cys Gly His Pro His Asp Pro Asp His Pro Gly Pro Arg Ala Gly Gln  
 355 360 365  
 Val Pro Phe Val Leu Pro Leu Glu Arg Pro Ala Glu Leu Ala Glu Gly  
 370 375 380  
 Glu Ala Gly Glu His Glu Ser Asp Asp Pro Val Gly Val Gly Val Val  
 385 390 395 400  
 Asp Gln Val Arg His Leu Gly Leu Asp Asp Val Ala Arg Leu Leu Glu  
 405 410 415  
 Arg Asp Glu Gln Arg Leu Pro Gly Glu Asp His Pro Gly Pro Val Leu  
 420 425 430  
 Gly Gly Arg Val Ala Gly His Arg Arg Gly Glu His Arg Glu Arg Cys  
 435 440 445  
 Leu Asp Gly Leu Ala Asp Pro Asp Gly Val Pro Leu Asp Pro Val Pro  
 450 455 460  
 Arg Asp Arg Arg Leu Val Glu Gly Ala Val Ala Gln His Gln Val Phe  
 465 470 475 480  
 Tyr Gly His Arg Ala Ala Gln Ala Pro Asp Gly Gln Arg Gly Val Val  
 485 490 495  
 Gln Val Gly Ala Gly Gln Glu Ala Ala Pro Ala Ala Pro Leu Leu Arg  
 500 505 510  
 Pro Pro Asp Arg Pro Leu Ala Gln Glu Glu Leu His Leu Gly Glu Ala  
 515 520 525  
 Asp Arg Ala Gln Glu Gly Ala Val Arg Ala Gly Asp Gly Arg Pro Gly  
 530 535 540  
 Leu Leu Gly Pro Ala Ala Ala Asp Ala Ala Gly Ser Arg Asp Glu Leu  
 545 550 555 560  
 His Thr Asn Cys Pro Ala Thr Arg Pro Arg Arg Pro Arg Glu Pro Leu  
 565 570 575  
 Thr Leu Ile Gly Arg Leu Ile Gly Arg Leu Pro Lys Glu Lys Leu Ile  
 580 585 590  
 Thr Ser Gly Phe Ser Thr Arg Arg Arg Pro  
 595 600

<210> 427

<211> 79

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 36116 right: 36352 frame: -3 size(aa): 79  
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<400> 427

Val Leu Ala Arg Arg Pro Pro Gln Leu Arg Pro Ser Phe Gly Pro Gln  
1 5 10 15  
Ile Gly Pro Ser His Arg Arg Asn Cys Ile Trp Ala Lys Leu Ile Glu  
20 25 30  
Arg Arg Lys Ala Leu Ser Gly Leu Val Met Gly Ala Arg Gly Phe Leu  
35 40 45  
Val Pro Pro Pro Pro Met Pro Pro Ala Pro Glu Met Ser Phe Ile Arg  
50 55 60  
Thr Ala Pro Gln Arg Gly Pro Gly Asp Pro Gly Ser Arg Ser Arg  
65 70 75

<210> 428

<211> 434

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 36122 right: 37423 frame: 3 size(aa): 434

<400> 428

Ala Ala Pro Gly Val Ser Trp Ala Ser Leu Arg Gly Ser Ser Tyr Glu  
1 5 10 15  
Ala His Leu Trp Ser Arg Arg His Arg Arg Arg Arg Asp Gln Glu Ala  
20 25 30  
Pro Gly Ala His His Gln Pro Gly Gln Arg Leu Pro Ala Leu Asp Gln  
35 40 45  
Leu Arg Pro Asp Ala Val Pro Pro Val Arg Gly Ala Asp Leu Gly Ala  
50 55 60  
Glu Gly Gly Ala Gln Leu Gly Arg Pro Pro Gly Gln His Leu Pro Gly  
65 70 75 80  
Arg His Pro Ala Val Arg Pro Gly Pro Gly Arg His Gly Ala Arg Arg  
85 90 95  
Arg Pro Gly Ala Glu Leu Arg His Leu Arg Pro Asp Gly Gly Pro Gly  
100 105 110  
Val Arg Gly Pro Val Glu His His Arg Gly Arg Pro Val Arg Gln Gly  
115 120 125  
Ile Val Pro Gly Val Arg His Gly Asp Ala Gln Arg Pro Asp His Pro  
130 135 140  
Ala Pro Gly Pro Gly Gly Pro His Leu Gly Gly Ala Ala Arg Arg Val  
145 150 155 160  
Gln Ala Asp Gly Arg Arg Arg Arg Gly Pro Gly Ala Val Pro Asp Arg  
165 170 175  
Leu His Arg Arg Gln Arg Gly Arg Pro Thr Arg Val Arg Arg Leu His  
180 185 190  
Leu Arg Gln Val Gln Arg Ala Val Pro Ala Gly Ala Arg Met Gly Pro  
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195                      200                      205  
 Gly Arg Pro Gly Ala Leu Gly Gly Pro Gly His Ala Asp Gly Arg Arg  
   210                      215                      220  
 Arg Arg Arg Pro Arg Asn Ala Asp Arg Val Val Pro Leu Gly Val Gln  
   225                      230                      235                      240  
 Leu His Glu Ser Gln Leu Trp Pro Gly Ala Val Ser Gly Ala Pro Val  
                     245                      250                      255  
 Gln Cys His Ala His Pro Gly Arg Pro Gly Gly Pro Val Leu Gln Pro  
                     260                      265  
 Ala Gly Gly Arg His Arg Pro Val Arg Gln Asp Leu Gln Gly Thr His  
                     275                      280                      285  
 Glu Leu Arg Pro Leu Gly Arg His Leu Gln Arg Gly Val Gly Arg Glu  
                     290                      295                      300  
 Leu Gln Gly Gly Leu Asp Arg Gln Pro Arg Leu Val Leu Leu Arg His  
   305                      310                      315                      320  
 Gly Asp Glu Pro Gln Val Arg Pro Gly Arg Val Asp Arg Ser Gly Ala  
                     325                      330                      335  
 Asp Arg Gln Val Val Pro Leu Phe His Arg Pro Val Leu Arg Arg Pro  
                     340                      345                      350  
 Gly Ala Arg Arg Arg Arg Gly Ala Gly Ala Ala Val Ser Val Gln Pro  
                     355                      360                      365  
 Asp Pro Gly Arg Pro Glu Arg Arg Leu Gly Gly Pro Pro Ala Ala Gly  
   370                      375                      380  
 Val Asp Leu Pro Gly Ala Asp Leu Leu Glu Cys Arg Pro Gly Gly Gln  
   385                      390                      395                      400  
 His Pro Gly Arg Pro Arg Gly Leu Pro Val His Val Gln Pro Ile Gln  
                     405                      410                      415  
 Arg Arg Ala Asp Arg Arg Arg Leu Trp Arg Gly Arg Pro Ala Leu Leu  
                     420                      425                      430  
 Arg Val

&lt;210&gt; 429

&lt;211&gt; 79

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 36169 right: 36405 frame: 2 size(aa): 79

&lt;400&gt; 429

Ser Ser Ser Leu Glu Pro Ala Ala Ser Ala Ala Ala Gly Pro Arg Ser  
   1                      5                      10                      15  
 Pro Gly Arg Pro Ser Pro Ala Arg Thr Ala Pro Ser Cys Ala Arg Ser  
                     20                      25                      30  
 Ala Ser Pro Arg Cys Ser Ser Ser Cys Ala Arg Gly Arg Ser Gly Gly  
                     35                      40                      45



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Arg Arg Arg Gly Ala Ala Gly Ala Ala Ser Trp Pro Ala Pro Thr Trp  
50 55 60

Thr Thr Pro Arg Cys Pro Ser Gly Ala Trp Ala Ala Arg Cys Pro  
65 70 75

<210> 430

<211> 78

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 36265 right: 36498 frame: -2 size(aa): 78

<400> 430

Arg Thr Gly Arg Pro Arg Trp Cys Ser Thr Gly Pro Arg Thr Pro Gly  
1 5 10 15

Pro Pro Ser Gly Arg Arg Cys Arg Ser Ser Ala Pro Gly Leu Leu Arg  
20 25 30

Ala Pro Cys Arg Pro Gly Pro Gly Arg Thr Ala Gly Cys Arg Pro Gly  
35 40 45

Arg Cys Trp Pro Gly Gly Arg Pro Ser Cys Ala Pro Pro Ser Ala Pro  
50 55 60

Arg Ser Ala Pro Arg Thr Gly Gly Thr Ala Ser Gly Arg Ser  
65 70 75

<210> 431

<211> 73

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 36424 right: 36642 frame: 2 size(aa): 73

<400> 431

Ala Thr Ala Pro Ser Thr Arg Arg Arg Ser Arg Gly Thr Gly Ser Ser  
1 5 10 15

Gly Thr Pro Ser Gly Ser Ala Ser Pro Ser Arg His Arg Ser Arg Cys  
20 25 30

Ser Pro Arg Arg Cys Pro Ala Thr Arg Pro Pro Ser Thr Gly Pro Gly  
35 40 45

Trp Ser Ser Pro Gly Arg Arg Cys Ser Ser Arg Ser Ser Arg Arg Ala  
50 55 60

Thr Ser Ser Arg Pro Arg Cys Arg Thr  
65 70

<210> 432

<211> 74

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 36428 right: 36649 frame: -3 size(aa): 74

&lt;400&gt; 432

Ser Ile Arg Tyr Gly Thr Trp Ala Ser Thr Thr Ser Pro Val Cys Leu  
 1 5 10 15  
 Asn Ala Thr Ser Ser Ala Ser Gln Val Arg Thr Thr Arg Ala Arg Cys  
 20 25 30  
 Trp Val Val Gly Ser Leu Gly Ile Ala Val Ala Asn Thr Gly Asn Asp  
 35 40 45  
 Ala Leu Thr Asp Trp Pro Thr Pro Met Val Phe His Trp Thr Pro Tyr  
 50 55 60  
 Pro Gly Thr Ala Val Trp Ser Lys Val Pro  
 65 70

&lt;210&gt; 433

&lt;211&gt; 146

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 36646 right: 37083 frame: 2 size(aa): 146

&lt;400&gt; 433

Ser Thr Thr Pro Thr Pro Thr Gly Ser Ser Asp Ser Cys Ser Pro Ala  
 1 5 10 15  
 Ser Pro Ser Ala Ser Ser Ala Gly Arg Ser Ser Gly Ser Thr Asn Gly  
 20 25 30  
 Thr Trp Pro Ala Arg Gly Pro Gly Trp Ser Gly Ser Cys Gly Trp Pro  
 35 40 45  
 Gln Thr Thr Thr Pro Ser Lys Arg Arg Ser Arg Arg Ser Ala Arg Arg  
 50 55 60  
 Ser Ala Ser Arg Ile Ser Ala Leu Ala Arg Cys Cys Leu Trp Gly Ala  
 65 70 75 80  
 Gly Thr Val Pro Arg Ser Pro Trp Pro Pro Gly Arg Thr Gly Thr Pro  
 85 90 95  
 Thr Cys Arg Arg Ser Pro Ser Thr Cys Thr Ala Arg Ser Ala Arg Tyr  
 100 105 110  
 Pro Arg Thr Thr Thr Pro Gly Pro Ala Pro Thr Ala Gly Cys Gly Thr  
 115 120 125  
 Gly Ala Ser Arg Arg Thr Gly Pro Thr Thr Pro Pro Gly Ala Ser Thr  
 130 135 140  
 Thr Trp  
 145

&lt;210&gt; 434

&lt;211&gt; 112

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

<223> New ORF = left: 36653 right: 36988 frame: -3 size(aa): 112

<400> 434

```

Phe Val Gly Thr Leu Gln Ile Leu Pro Tyr Arg Ser Met Ala Thr Ala
1      5      10
Gly Arg Leu Glu Tyr Arg Ser Ala Arg Ala Ala Arg Val Ser Val Ala
20     25     30
Leu Tyr Arg Arg Pro Arg Asp Ser Thr Gly Pro Lys Leu Arg Phe Val
35     40     45
Lys Leu Asn Ala Glu Arg Asn Asp Ala Ile Gly Val Ser Arg Ala Ser
50     55     60
Ser Ser Ala Ala Ile Arg Met Thr Arg Thr Thr Gln Gly Pro Gly Pro
65     70     75     80
Ala Arg Ser His Ser Cys Ser Arg Trp Asn Gly Pro Leu Asn Leu Pro
85     90     95
Lys Val Lys Pro Ala Asn Thr Ser Arg Thr Thr Pro Leu Ala Ser Val
100    105    110

```

<210> 435

<211> 93

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 37039 right: 37317 frame: -2 size(aa): 93

<400> 435

```

Pro Pro Gly Arg His Ser Lys Arg Ser Ala Pro Gly Arg Ser Thr Pro
1      5      10
Ala Ala Gly Gly Pro Pro Arg Arg Arg Ser Gly Arg Pro Gly Ser Gly
20     25     30
Cys Thr Glu Thr Ala Ala Pro Ala Pro Arg Arg Arg Arg Ala Pro Gly
35     40     45
Arg Arg Ser Thr Gly Arg Trp Asn Arg Gly Thr Thr Cys Arg Ser Ala
50     55     60
Pro Asp Arg Ser Thr Arg Pro Gly Arg Thr Trp Gly Ser Ser Pro Cys
65     70     75     80
Arg Arg Ser Thr Arg Arg Gly Cys Arg Ser Ser Pro Pro
85     90

```

<210> 436

<211> 113

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 37151 right: 37489 frame: -3 size(aa): 113

<400> 436

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Ala Leu Ala Gly Ser Ser Gln Glu Thr Arg Gln Thr Val Cys Arg Val  
 1 5 10 15  
 Arg Leu Ala Val Pro Ser Tyr Ser Lys Gln Gly Trp Thr Thr Ala Pro  
 20 25 30  
 Glu Ser Ser Thr Val Cys Ser Thr Leu Asp Gly Leu Asn Val Tyr Arg  
 35 40 45  
 Lys Ser Pro Gly Ala Ser Trp Val Leu Thr Thr Arg Pro Ala Leu Gln  
 50 55 60  
 Lys Ile Cys Pro Arg Lys Ile Asp Ala Ser Cys Trp Arg Thr Thr Gln  
 65 70 75 80  
 Ala Ser Phe Trp Ala Ala Arg Ile Arg Leu His Arg Asn Arg Arg Ser  
 85 90 95  
 Ser Pro Pro Pro Thr Ala Gly Thr Arg Pro Ser Gln Tyr Trp Pro Met  
 100 105 110  
 Glu

<210> 437  
 <211> 140  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 37228 right: 37647 frame: 2 size(aa): 140

<400> 437  
 Ser Trp Pro Pro Arg Thr Thr Pro Gly Trp Ser Ser Ser Ser Trp Arg  
 1 5 10 15  
 Arg Ser Ser Gly Gly Arg Ser Phe Gly Val Pro Ala Trp Trp Ser Ala  
 20 25 30  
 Pro Arg Thr Pro Pro Gly Thr Ser Cys Thr Arg Ser Thr His Pro Thr  
 35 40 45  
 Ser Ser Arg Pro Ser Thr Thr Leu Ala Arg Ser Ser Ser Pro Ala Ser  
 50 55 60  
 Ser Met Arg Ala Arg Pro Asn Ala Pro Gly Thr Pro Ser Val Trp Ser  
 65 70 75 80  
 Pro Gly Thr Thr Arg Pro Thr Pro Thr Ser Pro Gly Trp Ser Thr Ser  
 85 90 95  
 Arg Thr Ala Met Pro Trp Pro Ala Leu Ala Thr Gly Arg Trp Ser Ser  
 100 105 110  
 Gly Ser Thr Ala Ser Pro Pro Gly Gly Arg Pro Cys Gly Arg Pro Ser  
 115 120 125  
 Gly Arg Ser Cys Arg Arg Arg Ser Trp Thr Thr Arg  
 130 135 140

<210> 438  
 <211> 69  
 <212> PRT  
 <213> Cyanophage S-2L

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<220>

<221> misc\_feature

<223> New ORF = left: 37360 right: 37566 frame: -2 size(aa): 69

<400> 438

Ala Gly Ala Pro Ala Ala Gly Ser Gln Gly Gly Pro Gly His Arg Cys  
1 5 10 15  
Pro Arg Cys Thr Pro Pro Gly Ala Gly Arg Arg Trp Pro Gly Arg Pro  
20 25 30  
Arg Arg Pro Asp Arg Arg Cys Ala Gly Cys Val Trp Pro Cys Pro His  
35 40 45  
Thr Arg Ser Arg Ala Gly Arg Pro Arg Gln Ser Arg Arg Arg Ser Ala  
50 55 60  
Arg Arg Trp Met Gly  
65

<210> 439

<211> 337

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 37427 right: 38437 frame: 3 size(aa): 337

<400> 439

Gly His Gly Gln Thr His Pro Ala His Arg Leu Ser Gly Leu Leu Gly  
1 5 10 15  
Arg Pro Gly Gln Arg Leu Pro Ala Pro Gly Gly Val His Arg Gly Gln  
20 25 30  
Arg Cys Pro Gly Pro Pro Trp Leu Pro Ala Ala Gly Ala Pro Ala Gln  
35 40 45  
Arg His His His Pro Gly Ala Gly Pro Ala Asp Gly Pro Val Gly Ala  
50 55 60  
Pro Val Gly Gly Asp Pro Gly Arg His Gly Asp Val Gln Gly Gly Arg  
65 70 75 80  
His Arg His Gly Pro Ala Pro Trp Gly Ser Cys Gln Gly His Gly Pro  
85 90 95  
Gly Gln Gly Arg Gly Pro Leu Arg Arg Ser Gly Gly Cys Pro Gly Arg  
100 105 110  
Arg His Asp His Ala Arg Arg Gly Thr Pro Asp Thr Pro Arg Arg Leu  
115 120 125  
Gly Gly Arg Ala Val Leu Leu Ala Val Gly Gly Arg Ala Thr Pro Gly  
130 135 140  
Gln Arg Gly Gly Gly Leu Arg Gly Arg Arg Asp Gly Leu Arg Leu Gly  
145 150 155 160  
Arg Arg Gln Pro Ala His Pro Arg His Ala Leu Ala Ala Gly Gly Ala  
165 170 175  
Gln Pro Gly Gly Pro Ala Val Pro His Pro Gly Tyr Arg Gly Ala Arg  
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180	185	190
Pro Glu Pro Val Arg Arg His Gly	Pro Ala Leu Pro Val Arg His Leu	
195	200	205
Arg Pro Gly Gly Leu Arg Tyr Pro Ala Leu Gly Arg Arg Gly Leu Pro		
210	215	220
Val Gln Ala Ala Gly Pro Ala Ala Pro Asp Asp Pro Glu Cys Pro Asp		
225	230	235
Arg Leu Gly Gln Gln Pro Gly Gln Ala Arg Gly Gln Leu Ala Pro Pro		
245	250	255
Arg Pro Gly Ile Arg Arg Trp Arg Phe Arg Pro Val His Leu Leu Pro		
260	265	270
Pro Ala Pro Val Pro Ala Gly Arg Gly Arg Gly Trp Arg Gly Gly His		
275	280	285
Leu Asp Gln Ser Val Gly Gly Gly Arg Pro Thr Asp Arg His His Arg		
290	295	300
Asp Asp Pro Pro Gly Gly Val Pro Gly Ala Asp Pro Val Gln Gly Pro		
305	310	315
Asp Gly Val Gly Gly Gln Ser Arg Arg Arg Val Ala Leu Val Gly Gly		
325	330	335

Ala

<210> 440  
 <211> 93  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 37547 right: 37825 frame: -3 size(aa): 93

<400> 440

Asn Ser Pro Pro Ala Gln Pro Ala Arg Gly Val Gly Gly Ala Ala Ser	
1	15
Ser Val Ile Val Ser Pro Ser Trp Ala Thr Thr Arg Pro Pro Lys Arg	
20	30
Thr Pro Pro Leu Ser Gly Ser Met Thr Leu Thr Arg Ser Pro Gly Arg	
35	45
Arg Ala Met Pro Met Ala Pro Thr Leu Asn Val Thr Val Ser Ser Arg	
50	60
Ile Ala Ser Asp Arg Ser Ala His Trp Ala Val Arg Arg Ala Cys Pro	
65	80
Arg Val Val Met Pro Leu Ser Arg Ser Ser Ser Gly Arg	
85	90

<210> 441  
 <211> 79  
 <212> PRT  
 <213> Cyanophage S-2L

<220>

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&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 37651 right: 37887 frame: 2 size(aa): 79

&lt;400&gt; 441

Arg Ser Arg Trp Ala Pro Ser Ala Trp Pro Cys Ala Leu Gly Ile Leu  
 1 5 10 15  
 Ser Arg Ser Trp Thr Arg Thr Arg Ala Gly Ser Ala Ser Ala Val Gly  
 20 25 30  
 Trp Leu Pro Arg Thr Ala Thr Arg Ser Arg Ser Thr Arg His Pro Arg  
 35 40 45  
 His Pro Ser Pro Ala Gly Arg Glu Gly Cys Ser Ile Gly Ser Arg Gly  
 50 55 60  
 Pro Gly Tyr Pro Gly Ser Thr Trp Arg Gly Ser Pro Gly Pro Ser  
 65 70 75

&lt;210&gt; 442

&lt;211&gt; 68

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 37829 right: 38032 frame: -3 size(aa): 68

&lt;400&gt; 442

Arg Arg Ala Val Thr Ala Tyr Arg Phe Trp Pro Ser Ser Ser Ile Pro  
 1 5 10 15  
 Arg Met Arg Asn Gly Trp Ala Ser Arg Leu Gly Thr Ser Ser Ser Gln  
 20 25 30  
 Gly Met Pro Gly Val Gly Arg Leu Ser Ser Pro Gln Pro Glu Thr Val  
 35 40 45  
 Thr Thr Ala Pro Glu Thr Pro Ala Thr Leu Thr Arg Gly Ser Pro Ala  
 50 55 60  
 Pro Asp Cys Gln  
 65

&lt;210&gt; 443

&lt;211&gt; 707

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 37851 right: 39971 frame: -1 size(aa): 707

&lt;400&gt; 443

Arg Leu Val Ala Asp His Asp Gln Val His Gln Gly Arg Arg Val Gly  
 1 5 10 15  
 Pro Gly Gly Val His Arg Pro Gln Val Asp Pro Val Gly Ala Leu Val  
 20 25 30  
 Asp Asp Ala Pro Pro Asp Gly His Pro Gly Gly His Gly Val Val Leu  
 35 40 45

## 261089ST25.txt

His Arg His Arg Asn Arg Leu Asp Pro Ala Glu Gln Pro Arg Trp Gln  
 50 55 60  
 Arg Asp Arg Cys Asp Ala His Thr Gly Leu Val Val Leu Asp Arg Pro  
 65 70 75 80  
 Asp Asp Val Gly His Val Glu Asp His Ile Asp Val Leu Asp Pro Gly  
 85 90 95  
 Gly His Val Gly Ser Ala Gly Asp Gly Leu Glu Ala Asp Leu Pro Gln  
 100 105 110  
 Ala Gly Gly Gln Leu Leu Val Gly Gly Val Gly Val Glu Pro Arg Pro  
 115 120 125  
 Ala Ala Gln Glu Leu Ala Gln Val Glu Trp Arg Leu Leu Gly Asp Val  
 130 135 140  
 Val His Arg Val Gly Arg Arg Gly Asp Val Pro Glu Pro Gln Ala Asp  
 145 150 155 160  
 Arg Ala Asp Val Leu Lys Pro Pro Ala Val Arg Pro Gly Val Gly Phe  
 165 170 175  
 Cys Val Asp Gln Gln Gly Ala Ala Val Tyr Leu His Leu Gln Gln Gly  
 180 185 190  
 Pro Val Asp His Gly Leu Gly Arg Val Val Leu Asp Glu Leu Thr Ala  
 195 200 205  
 Ala Pro Ala Ala Val Asp Arg Leu Leu Gln Gly Arg Leu Val Gln Val  
 210 215 220  
 Leu Gly Gly Gly Trp Glu Val Glu Gln Arg Ala Ser Arg Ala Asp His  
 225 230 235 240  
 Gly Ala Val Cys Gln Ile Ser Arg Pro Ala Leu Gln Arg Gln Val Glu  
 245 250 255  
 Gln Arg Lys Asp Val Gly Gly Gln Gly Leu Ala Asp Ala His Arg His  
 260 265 270  
 Asp Arg His Leu Ile Gly Asp Pro Pro Gly Pro Val Pro Gly Pro Glu  
 275 280 285  
 His Asp Arg Glu Gly Pro Val Val His Gln Val Gly Leu Glu Pro Glu  
 290 295 300  
 Gly Val Pro Gly Asp Ala Val Gly Gln Gln Gly Glu Ser Ala Leu Pro  
 305 310 315 320  
 Ala His Ile Asp Ala Ala Pro Val Ala His Leu Glu Thr Gly Asp Val  
 325 330 335  
 Ala His Gln Ala Ala Ala Pro Ala Leu Gly Glu Arg Trp Arg Val Arg  
 340 345 350  
 His Glu Pro Arg Glu Pro Ala Ala Ala His Pro Ala Leu Ala Val Leu  
 355 360 365  
 Leu Gly Asp Gln Ala Glu Leu Gly Gly Gly Gly Gly Asp Asp Leu Gln  
 370 375 380  
 Ala Val His His Val Glu His Glu Arg Pro Pro Leu Gln Ala Gly His  
 385 390 395 400  
 Lys Arg Gly Gln Pro Gly Pro His Val Pro Gly Ser Cys His Gly Gln



## 261089ST25.txt

405 410 415  
 Gln Gly Leu Asp Ala Gly Ile Arg Gly Ser Gly Ala Gln Lys Asp Val  
 420 425 430  
 Ala Val Leu Val Gly Gly Asp Ala Val Gly Gln Trp His Pro Asp Gly  
 435 440 445  
 Pro Pro Pro His Leu Asp Arg Ala Gly Val Arg Arg His Leu Gly Glu  
 450 455 460  
 Asp Leu Pro Gly Pro Glu Val Ala Ala Ser Gly Gln Val Arg Val Arg  
 465 470 475 480  
 Gln Asp Ala Ser Arg Ala Gly Leu Ala Pro Gly Val Arg Asp Asp Arg  
 485 490 495  
 Leu Glu Val Gly Asp Arg Glu Pro His Leu Glu Arg Arg Gly Leu Lys  
 500 505 510  
 Leu Arg Arg Pro Glu Arg Leu Gly Ala Gly Phe Ala His Arg Arg His  
 515 520 525  
 Pro Asp Leu Val Pro Gly Leu Arg Leu Val Pro His Gln Gly Asp Arg  
 530 535 540  
 Leu Gly Gly Val Gly Leu Ser Val Tyr Leu Arg Pro Leu Ile Gly Pro  
 545 550 555 560  
 Gly Asp Leu Pro Ala Ser Pro Asp Leu Ala Pro Leu Val Leu Glu Pro  
 565 570 575  
 Val Val Gly Gly Gly Gln Val Glu Thr Ala Ile Asp Glu Tyr Pro Val  
 580 585 590  
 Leu Gly Ala Pro Val Asp Leu Glu Leu Gly Leu Ala Val Val Pro Asp  
 595 600 605  
 Asp Leu Gly Ile Gln Asp Arg Arg Gly Gln Arg Val Gln Gln Leu Glu  
 610 615 620  
 Gln Val Val Leu Val Val Arg Glu Arg Gly Ile Glu Val His Pro Val  
 625 630 635 640  
 Val Asp Val Gly Pro Val Ala Gln Gly Arg Asp Gly Val Pro Val Leu  
 645 650 655  
 Ala Glu Leu Leu Asp Thr Gln Asp Ala Glu Arg Leu Gly Leu Gln Val  
 660 665 670  
 Gly His Leu Gln Gln Pro Gly His Ala Gly Gly Gly Pro Ala Val Val  
 675 680 685  
 Ala Pro Ala Gly Asp Arg His Asp Gly Pro Gly Asp Pro Arg His Val  
 690 695 700

Asp Pro Gly  
705

<210> 444

<211> 53

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 37861 right: 38019 frame: -2 size(aa): 53

&lt;400&gt; 444

Arg Arg Thr Gly Ser Gly Arg Ala Pro Arg Tyr Pro Gly Cys Gly Thr  
 1 5 10 15  
 Ala Gly Pro Pro Gly Trp Ala Pro Pro Ala Ala Arg Ala Cys Arg Gly  
 20 25 30  
 Trp Ala Gly Cys Arg Arg Pro Ser Arg Arg Pro Ser Arg Arg Pro Arg  
 35 40 45  
 Arg Pro Pro Pro Arg  
 50

&lt;210&gt; 445

&lt;211&gt; 81

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 37891 right: 38133 frame: 2 size(aa): 81

&lt;400&gt; 445

Arg Ser Pro Ala Gly Ala Thr Thr Ala Gly Pro Pro Pro Ala Cys Pro  
 1 5 10 15  
 Gly Cys Trp Arg Cys Pro Thr Trp Arg Pro Ser Arg Ser Ala Ser Trp  
 20 25 30  
 Val Ser Arg Ser Ser Ala Arg Thr Gly Thr Pro Ser Arg Pro Cys Ala  
 35 40 45  
 Thr Gly Pro Thr Ser Thr Thr Gly Trp Thr Ser Ile Pro Arg Ser Arg  
 50 55 60  
 Thr Thr Arg Thr Thr Cys Ser Ser Cys Trp Thr Arg Cys Pro Arg Arg  
 65 70 75 80  
 Ser

&lt;210&gt; 446

&lt;211&gt; 59

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 38137 right: 38313 frame: 2 size(aa): 59

&lt;400&gt; 446

Met Pro Arg Ser Ser Gly Thr Thr Ala Arg Pro Ser Ser Arg Ser Thr  
 1 5 10 15  
 Gly Ala Pro Lys Thr Gly Tyr Ser Ser Met Ala Val Ser Thr Cys Pro  
 20 25 30  
 Pro Pro Thr Thr Gly Ser Ser Thr Ser Gly Ala Arg Ser Gly Leu Ala  
 35 40 45  
 Gly Arg Ser Pro Gly Pro Ile Ser Gly Arg Arg  
 50 55

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<210> 447  
 <211> 59  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 38290 right: 38466 frame: -2 size(aa): 59

<400> 447  
 Gly Thr Thr Pro Arg Ala Ala Trp Pro Gln Ala Pro Pro Thr Arg Ala  
 1 5 10 15  
 Thr Arg Arg Arg Leu Cys Pro Pro Thr Pro Ser Gly Pro Cys Thr Gly  
 20 25 30  
 Ser Ala Pro Gly Thr Pro Pro Gly Gly Ser Ser Arg Trp Cys Arg Ser  
 35 40 45  
 Val Gly Leu Pro Pro Pro Thr Asp Trp Ser Arg  
 50 55

<210> 448  
 <211> 98  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 38303 right: 38596 frame: -3 size(aa): 98

<400> 448  
 Gly Gly Thr Trp Val Lys Ile Phe Gln Val Gln Arg Trp Pro Pro Val  
 1 5 10 15  
 Ala Arg Phe Val Cys Asp Arg Thr Pro Ala Gly Pro Val Ser Pro Pro  
 20 25 30  
 Gly Cys Gly Thr Ile Asp Ser Lys Ser Gly Ile Gly Asn His Thr Ser  
 35 40 45  
 Ser Gly Val Ala Ser Ser Ser Ala Asp Gln Ser Asp Ser Ala Pro Ala  
 50 55 60  
 Leu Pro Thr Asp Ala Ile Arg Thr Leu Tyr Arg Val Cys Ala Trp Tyr  
 65 70 75 80  
 Pro Thr Arg Gly Ile Val Ser Val Val Ser Val Cys Arg Ser Thr Ser  
 85 90 95  
 Ala His

<210> 449  
 <211> 148  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 38317 right: 38760 frame: 2 size(aa): 148

&lt;400&gt; 449

Thr Asp Arg Pro Thr Pro Pro Arg Arg Ser Pro Trp Trp Gly Thr Arg  
 1 5 10 15  
 Arg Arg Pro Gly Thr Arg Ser Gly Trp Arg Arg Trp Ala Lys Pro Ala  
 20 25 30  
 Pro Ser Arg Ser Gly Arg Arg Ser Leu Arg Pro Arg Arg Ser Arg Cys  
 35 40 45  
 Gly Ser Leu Ser Pro Thr Ser Ser Arg Ser Ser Arg Thr Pro Gly Ala  
 50 55 60  
 Arg Pro Ala Arg Leu Ala Ser Cys Arg Thr Arg Thr Trp Pro Leu Ala  
 65 70 75 80  
 Ala Thr Ser Gly Pro Gly Arg Ser Ser Pro Arg Cys Arg Leu Thr Pro  
 85 90 95  
 Ala Arg Ser Arg Cys Gly Gly Gly Pro Ser Gly Cys His Cys Pro Thr  
 100 105 110  
 Ala Ser Pro Pro Thr Arg Thr Ala Thr Ser Phe Trp Ala Pro Leu Pro  
 115 120 125  
 Arg Met Pro Ala Ser Arg Pro Cys Cys Pro Trp Gln Leu Pro Gly Thr  
 130 135 140  
 Cys Gly Pro Gly  
 145

&lt;210&gt; 450

&lt;211&gt; 234

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 38441 right: 39142 frame: 3 size(aa): 234

&lt;400&gt; 450

Gly His Ala Ala Arg Gly Val Val Pro Tyr Pro Arg Leu Arg Val Asp  
 1 5 10 15  
 Arg Pro Ala Pro Arg Gly Arg Asp Arg Pro Gly Trp Arg Pro Val Ala  
 20 25 30  
 His Glu Pro Gly His Trp Arg Pro Pro Leu Asp Leu Glu Asp Leu His  
 35 40 45  
 Pro Gly Ala Ala Leu Arg Pro Leu Asp Arg Gly Val Gly Ala Ala Arg  
 50 55 60  
 Arg Gly Ala Thr Ala Arg Arg Arg His His Arg Arg Gly Arg Leu His  
 65 70 75 80  
 Pro Phe Gly His Arg Cys Pro Glu Cys Arg Arg Arg Gly Pro Ala Ala  
 85 90 95  
 Arg Gly Ser Tyr Leu Gly Arg Ala Gly Pro Ala Asp His Val Cys Ala  
 100 105 110  
 Arg Pro Gly Gly Ala Val Val His Ala Arg His Gly Gly Pro Pro Gly  
 115 120 125

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Asp Arg Pro Pro His Pro His Arg Val Pro Pro Gly His Arg Ala Gly  
 130 135 140  
 Arg Pro Glu Pro Asp Gly Gln Pro Pro Val Leu Leu Ala His Ala Gly  
 145 150 155 160  
 Pro Ala Thr Val Arg Arg Ala Leu Gly Arg Arg Pro Gly Glu Arg His  
 165 170 175  
 Arg Arg Phe Arg Gly Ala Leu Pro Glu Arg Arg Arg Cys Gly Leu Gly  
 180 185 190  
 Gly Arg Phe Pro Pro Ala Val Arg Arg Arg Pro Arg Gly His Leu Leu  
 195 200 205  
 Val Arg Asp Pro Pro Asp Gly Leu Arg Asp Leu His Gly His Ala Pro  
 210 215 220  
 Gly Pro Gly Pro Asp Arg Val Gly Leu Arg  
 225 230

<210> 451  
 <211> 103  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 38678 right: 38986 frame: -3 size(aa): 103

<400> 451

Arg Thr Ser Lys Pro Ala Met Ser Leu Thr Arg Pro Pro Pro Gln Arg  
 1 5 10 15  
 Ser Ala Asn Gly Gly Gly Ser Gly Met Ser Gln Glu Asn Arg Arg Leu  
 20 25 30  
 Pro Ile Arg Leu Trp Pro Ser Cys Ser Val Thr Arg Arg Asn Ser Val  
 35 40 45  
 Gly Val Gly Gly Thr Ile Ser Arg Arg Ser Thr Met Ser Ser Met Asn  
 50 55 60  
 Asp Arg Pro Ser Arg Pro Gly Thr Asn Val Val Ser Arg Ala Arg Thr  
 65 70 75 80  
 Ser Gln Val Ala Ala Thr Gly Ser Arg Ala Ser Thr Pro Ala Phe Gly  
 85 90 95  
 Ala Ala Val Pro Lys Arg Met  
 100

<210> 452  
 <211> 65  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 38764 right: 38958 frame: 2 size(aa): 65

<400> 452

Pro Arg Leu Cys Pro Ala Trp Arg Gly Gly Arg Ser Cys Ser Thr Trp  
 1 5 10 15  
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Trp Thr Ala Trp Arg Ser Ser Pro Pro Pro Pro Pro Ser Ser Ala Trp  
 20 25 30  
 Ser Pro Ser Arg Thr Ala Arg Ala Gly Trp Ala Ala Ala Gly Ser Leu  
 35 40 45  
 Gly Ser Cys Arg Thr Arg His Arg Ser Pro Ser Ala Gly Ala Ala Ala  
 50 55 60

Trp  
 65

<210> 453  
 <211> 61  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 38914 right: 39096 frame: -2 size(aa): 61

<400> 453  
 Arg Ser Arg Ser Pro Ser Gly Gly Ser Arg Thr Arg Arg Cys Pro Arg  
 1 5 10 15  
 Gly Arg Arg Arg Thr Ala Gly Gly Lys Arg Pro Pro Ser Pro His Arg  
 20 25 30  
 Arg Arg Ser Gly Ser Ala Pro Arg Asn Arg Arg Cys Arg Ser Pro Gly  
 35 40 45  
 Arg Arg Pro Ser Ala Arg Arg Thr Val Ala Gly Pro Ala  
 50 55 60

<210> 454  
 <211> 63  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 39089 right: 39277 frame: -3 size(aa): 63

<400> 454  
 Asn Ser Gly Leu Val Glu Pro Thr Thr Val Pro Phe Ala Arg Ser Pro  
 1 5 10 15  
 Gly Gln Pro Ser Ser Asp Arg Ser Ser Ser Val Arg Thr Leu Val Gly  
 20 25 30  
 Arg Gly Trp Pro Met Pro Thr Val Thr Thr Ala Ile Ser Ser Glu Thr  
 35 40 45  
 His Pro Val Arg Ser Arg Ala Arg Ser Met Thr Val Lys Val Pro  
 50 55 60

<210> 455  
 <211> 85  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature

<223> New ORF = left: 39160 right: 39414 frame: 2 size(aa): 85

<400> 455

Arg Trp Ala Ser Ala Ser Pro Cys Pro Pro Thr Ser Leu Arg Cys Ser  
 1 5 10 15  
 Thr Cys Arg Trp Arg Ala Gly Leu Glu Ile Trp Gln Thr Ala Pro Trp  
 20 25 30  
 Ser Ala Arg Leu Ala Arg Cys Ser Thr Ser His Pro Pro Pro Arg Thr  
 35 40 45  
 Cys Thr Arg Arg Pro Trp Arg Arg Arg Ser Thr Ala Ala Gly Ala Ala  
 50 55 60  
 Val Ser Ser Ser Arg Thr Thr Arg Pro Ser Pro Trp Ser Thr Gly Pro  
 65 70 75 80  
 Cys Trp Arg Trp Arg  
 85

<210> 456

<211> 72

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 39268 right: 39483 frame: -2 size(aa): 72

<400> 456

Cys Pro Gln Ala Ala Ser Gly Thr Thr Arg Cys Arg Ile Leu Cys Arg  
 1 5 10 15  
 Ser Ala Gly Arg Cys Arg Leu Pro Pro Pro Pro Ala Gly Pro Gly Arg  
 20 25 30  
 Pro Trp Ala Gly Pro Gly Arg Ser Gly Arg Ala His Arg Arg Ser Gly  
 35 40 45  
 Arg Cys Arg Ser Pro Pro Pro Gly Ala Pro Arg Thr Gly Pro Arg Trp  
 50 55 60  
 Trp Val Gly Ser Arg Thr Ala Gly  
 65 70

<210> 457

<211> 55

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 39440 right: 39604 frame: -3 size(aa): 55

<400> 457

Gly Trp Ser Pro Ala Pro Pro Leu Arg Asn Ser Pro Arg Trp Asn Gly  
 1 5 10 15  
 Ala Ser Ser Ala Thr Ser Tyr Ile Gly Ser Val Val Gly Ala Thr Tyr  
 20 25 30

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Arg Ser Pro Arg Pro Thr Val Leu Met Ser Ser Ser Arg Gln Arg Tyr  
 35 40 45

Asp Pro Val Ser Asp Ser Val  
 50 55

<210> 458

<211> 169

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 39479 right: 39985 frame: 3 size(aa): 169

<400> 458

Gly His Gln His Gly Arg Pro Gly Ala Pro Val Arg Arg Pro Asp Asp  
 1 5 10 15

Arg Pro Asp Val Arg Arg Arg Arg Gly Gly Ala Ile Pro Pro Gly Arg  
 20 25 30

Val Pro Glu Arg Arg Gly Gly Ala Pro Pro Leu Arg Pro Pro Pro Glu  
 35 40 45

Ala Asp Arg Arg Pro Val Ala Asp Gln Pro Arg Gly His Arg Gln His  
 50 55 60

Tyr Gln Arg Ala Arg Pro Asp Pro Gly Arg Arg Cys Gly Pro Arg Arg  
 65 70 75 80

Ala Arg Arg Arg Leu Asp Asp Arg Gly Leu Arg Gly Arg Cys Gly Arg  
 85 90 95

His Ile Gly Pro Ala Ala Thr Gly Ala Val Pro Pro Gly Gln Gly Gly  
 100 105 110

Phe Asp Gly Gly Ala Gly Arg His Arg Gly Arg Arg Gly Gly Arg Arg  
 115 120 125

Gly Ala His Arg Leu Gln Gly His Arg Pro Asp Arg Pro Ala Asp Gly  
 130 135 140

Gly Arg Leu Arg Gly Arg His Gly Gly Pro Gly Gly Pro Asp Arg Gly  
 145 150 155 160

Arg Leu Leu Val Ala Thr Val Leu Ala  
 165

<210> 459

<211> 53

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 39487 right: 39645 frame: -2 size(aa): 53

<400> 459

Ser Ala Thr Gly Arg Arg Ser Ala Ser Gly Gly Gly Arg Arg Gly Gly  
 1 5 10 15

Ala Pro Pro Arg Arg Ser Gly Thr Arg Pro Gly Gly Met Ala Pro Pro  
 20 25 30



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Arg Arg Arg Arg Thr Ser Gly Arg Ser Ser Gly Arg Arg Thr Gly Ala  
35 40 45

Pro Gly Arg Pro Cys  
50

<210> 460  
<211> 107  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> New ORF = left: 39628 right: 39948 frame: 2 size(aa): 107

<400> 460

Pro Pro Ala Cys Gly Arg Ser Ala Ser Arg Pro Ser Pro Ala Leu Pro  
1 5 10 15

Thr Cys Pro Pro Gly Ser Arg Thr Ser Met Trp Ser Ser Thr Cys Pro  
20 25 30

Thr Ser Ser Gly Arg Ser Arg Thr Thr Arg Pro Val Trp Ala Ser His  
35 40 45

Arg Ser Arg Cys His Arg Gly Cys Ser Ala Gly Ser Arg Arg Phe Arg  
50 55 60

Trp Arg Cys Arg Thr Thr Pro Trp Pro Pro Gly Trp Pro Ser Gly Gly  
65 70 75 80

Ala Ser Ser Thr Arg Ala Pro Thr Gly Ser Thr Cys Gly Arg Trp Thr  
85 90 95

Pro Pro Gly Pro Thr Arg Arg Pro Trp Trp Thr  
100 105

<210> 461  
<211> 115  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> New ORF = left: 39808 right: 40152 frame: -2 size(aa): 115

<400> 461

Asp Asp Cys Gly Arg Ile Asp Gly Leu Ile Leu Val Gly Gly Val His  
1 5 10 15

Pro Thr Gln Gly Leu Gly Gln Val Leu Gln Gln Leu Ala Asp Ala Asp  
20 25 30

Pro Glu Leu Leu Pro Gly Asp Ser Gln Val Val Glu Ala Val Gly Phe  
35 40 45

Ala Pro Asp Arg Gln Val Gly His Ala Ser Thr Val Ala Thr Ser Ser  
50 55 60

Arg Pro Arg Ser Gly Pro Pro Gly Pro Pro Cys Arg Pro Arg Arg Arg  
65 70 75 80

Pro Pro Ser Ala Gly Arg Ser Gly Arg Cys Pro Cys Arg Arg Cys Ala  
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85

90

95

Pro Arg Arg Pro Pro Arg Arg Pro Arg Cys Arg Pro Ala Pro Pro Ser  
 100 105 110

Lys Pro Pro  
 115

&lt;210&gt; 462

&lt;211&gt; 424

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 39952 right: 41223 frame: 2 size(aa): 424

&lt;400&gt; 462

Ser Trp Ser Ala Thr Ser Arg Tyr Ser Ala Gly Met Thr Asn Leu Pro  
 1 5 10 15

Ile Arg Gly Glu Thr Asp Ser Leu Asp Asn Leu Ala Val Thr Arg Glu  
 20 25 30

Glu Phe Arg Val Gly Ile Gly Gln Leu Leu Glu Tyr Leu Ala Gln Ala  
 35 40 45

Leu Gly Gly Val Asp Thr Thr Tyr Glu Asp Gln Pro Val Asp Pro Thr  
 50 55 60

Ala Val Val Leu Gln Gly Glu Pro Val Leu Asp Ile Asp Ala Val Pro  
 65 70 75 80

Glu Ala Ala Asp Asp Ser Leu Arg Val Pro Ser Thr Ser Trp Val Gln  
 85 90 95

Asp Glu Ile Ala Gly Leu Leu Asp Asp Tyr Val Ala Lys Thr Gly Gly  
 100 105 110

Val Met Thr Gly Asp Leu Arg Val Pro Ser Leu Asn Gly Gly Ala Leu  
 115 120 125

Ala Gly Leu Arg Asn Met Leu Ile Asn Gly Asp Phe Arg Ile Asp Gln  
 130 135 140

Arg Asn Thr Gly Gly Ala Tyr Gly Leu Thr Ala Gly Ala Ala Phe Ile  
 145 150 155 160

Tyr Gly Ala Asp Arg Trp Leu Gly Phe Cys Ser Gly Ala Asn Val Ser  
 165 170 175

Ala Gln Arg Ile Thr Val Ala Gly Thr Gln Val Asp Pro Asn Arg Met  
 180 185 190

Gln Phe Asn Gly Ala Ala Ser Val Thr Ala Ile Gly Ile Gly Gln Arg  
 195 200 205

Ile Glu Ala Ala Ser Ser Arg His Leu Ala Gly Arg Gln Ala Thr Leu  
 210 215 220

Ser Ala Asn Phe Ser Asn Ser Leu Leu Thr Thr Val Ser Trp Glu Ala  
 225 230 235 240

Phe Tyr Ala Asn Ser Ser Asp Ser Phe Gly Thr Arg Ala Ser Pro Thr  
 245 250 255

Arg Thr Ser Phe Ala Ser Gly Thr Phe Ala Val Thr Ser Ser Tyr Thr  
 260 265 270  
 Arg Tyr Ser Ala Thr Phe Asp Val Pro Ala Ala Ala Thr Thr Gly Ile  
 275 280 285  
 Glu Ile Val Phe Thr Val Gly Ala Gln Thr Ser Gly Thr Trp Val Val  
 290 295 300  
 Gly Gln Ala Gln Leu Glu Gly Val Gln Val Thr Pro Phe Glu Arg  
 305 310 315 320  
 Arg Pro Leu Gly Leu Glu Thr Ala Leu Cys Gln Arg Tyr Phe Thr Phe  
 325 330 335  
 Phe Pro Val Asn Val Arg Ala Ala Ala Pro Gly Ala Gly Ala Leu Tyr  
 340 345 350  
 Ala His Ser Val Ser Phe Pro Gln Arg Met Arg Ala Asn Pro Thr Leu  
 355 360 365  
 Gly Ser Ile Val Pro Asp Pro Glu Gly Pro Gly Ala Leu Asn Leu Asn  
 370 375 380  
 Gly Ala Gly Ile Thr Val Thr Gly Ala Thr Thr Tyr Gly Val Leu Val  
 385 390 395 400  
 Gln Met Val Val Asn Ser Pro Gly Ala Asp Ser Tyr Tyr Leu His Phe  
 405 410 415  
 Arg Ala Ser Ala Thr Ala Glu Leu  
 420

&lt;210&gt; 463

&lt;211&gt; 181

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 39969 right: 40511 frame: 1 size(aa): 181

&lt;400&gt; 463

Ser Leu Gln Cys Trp His Asp Gln Pro Ala Asp Pro Gly Arg Asn Arg  
 1 5 10 15  
 Gln Pro Arg Gln Pro Gly Cys His Pro Gly Gly Val Pro Gly Arg His  
 20 25 30  
 Arg Pro Ala Ala Gly Val Pro Gly Pro Gly Pro Gly Trp Gly Gly His  
 35 40 45  
 His Leu Arg Gly Ser Ala Arg Arg Ser Asp Arg Ser Arg Pro Thr Gly  
 50 55 60  
 Arg Ala Gly Ala Arg His Arg Arg Gly Ala Gly Gly Gly Arg Arg Gln  
 65 70 75 80  
 Pro Ala Gly Ala Leu Asp Val Leu Gly Thr Arg Arg Asp Arg Gly Pro  
 85 90 95  
 Pro Arg Arg Leu Arg Gly Gln Asp Arg Arg Arg His Asp Arg Arg Pro  
 100 105 110  
 Ala Gly Ala Gln Pro Gln Arg Trp Gly Ala Gly Arg Thr Ala Gln His  
 115 120 125

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Ala Asp Gln Arg Arg Phe Pro His Arg Pro Ala Glu His Trp Gly Arg  
 130 135 140  
 Leu Trp Pro Asp Gly Arg Gly Ser Phe His Leu Arg Cys Arg Pro Leu  
 145 150 155 160  
 Ala Arg Leu Leu Gln Trp Gly Gln Arg Leu Gly Ala Thr His His Gly  
 165 170 175  
 Gly Gly His Pro Gly  
 180

<210> 464  
 <211> 101  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 39989 right: 40291 frame: 3 size(aa): 101

<400> 464  
 Pro Thr Cys Arg Ser Gly Ala Lys Pro Thr Ala Ser Thr Thr Trp Leu  
 1 5 10 15  
 Ser Pro Gly Arg Ser Ser Gly Ser Ala Ser Ala Ser Cys Trp Ser Thr  
 20 25 30  
 Trp Pro Arg Pro Trp Val Gly Trp Thr Pro Pro Thr Arg Ile Ser Pro  
 35 40 45  
 Ser Ile Arg Pro Gln Ser Ser Tyr Arg Ala Ser Arg Cys Ser Thr Ser  
 50 55 60  
 Thr Arg Cys Arg Arg Arg Pro Thr Thr Ala Cys Gly Cys Pro Arg Arg  
 65 70 75 80  
 Pro Gly Tyr Lys Thr Arg Ser Arg Ala Ser Ser Thr Thr Thr Trp Pro  
 85 90 95  
 Arg Pro Ala Ala Ser  
 100

<210> 465  
 <211> 83  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 40040 right: 40288 frame: -3 size(aa): 83

<400> 465  
 Arg Arg Arg Ser Trp Pro Arg Ser Arg Arg Gly Gly Pro Arg Ser Arg  
 1 5 10 15  
 Leu Val Pro Arg Thr Ser Arg Ala Pro Ala Gly Cys Arg Arg Pro Pro  
 20 25 30  
 Pro Ala Pro Arg Arg Cys Arg Ala Pro Ala Arg Pro Val Gly Arg Leu  
 35 40 45  
 Arg Ser Asp Arg Arg Ala Asp Pro Arg Arg Trp Cys Pro Pro His Pro  
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60

Gly<sub>65</sub> Pro Gly Pro Gly Thr<sub>70</sub> Pro Ala Ala Gly Arg<sub>75</sub> Cys Arg Pro Gly Thr<sub>80</sub>

Pro Pro Gly

<210>	466
<211>	301
<212>	PRT
<213>	Cyanophage S-2L

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<220>
<221> misc_feature
<223> New ORF = left: 40156 right: 41058 frame: -2 size(aa): 301
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**<400>      466**

Ala 1	Gln	Arg	Arg	Ile 5	Gly	Pro	His	Pro	Leu 10	Trp	Glu	Ala	Asp	Ala 15	Val
Ser	Val	Glu	Gly 20	Pro	Ser	Pro	Trp	Gly 25	Arg	Arg	Pro	Asp	Val 30	Asp	Arg
Lys	Glu	Arg 35	Glu	Val	Ala	Leu	Ala 40	Lys	Gly	Cys	Phe	Gln 45	Pro	Lys	Arg
Ser	Pro 50	Leu	Glu	Gly	Gly	Tyr 55	Leu	Asp	Pro	Leu	Phe 60	Gln	Leu	Arg	Leu
Thr 65	Asp	His	Pro	Gly	Ala 70	Gly	Arg	Leu	Arg	Pro 75	Asp	Cys	Glu	Asn	Asp 80
Leu	Asp	Ala	Ser	Arg 85	Cys	Arg	Arg	Arg	His 90	Ile	Glu	Gly	Gly	Ala 95	Val
Pro	Arg	Val	Gly 100	Ala	Cys	Asn	Cys	Glu 105	Gly	Ala	Gly	Gly	Glu 110	Arg	Arg
Pro	Gly	Arg 115	Gly	Gly	Pro	Gly	Ala 120	Glu	Ala	Val	Ala	Thr 125	Val	Cys	Val
Glu	Arg 130	Leu	Pro	Arg	Asn	Ser 135	Gly	Glu	Glu	Ala	Val 140	Ala	Glu	Val	Gly
Arg 145	Glu	Arg	Arg	Leu	Pro 150	Ala	Arg	Gln	Val	Ala 155	Ala	Ala	Gly	Arg	Leu 160
Asn	Ala	Leu	Pro	Asp 165	Ala	Asp	Gly	Ser	Asp 170	Ala	Arg	Cys	Pro	Val 175	Glu
Leu	His	Thr	Val 180	Gly	Val	Asn	Leu	Gly 185	Ala	Arg	His	Arg	Asp 190	Ala	Leu
Arg	Arg	Asp 195	Val	Gly	Pro	Thr	Ala 200	Glu	Ala	Glu	Pro	Ala 205	Val	Gly	Thr
Val	Asp 210	Glu	Ser	Cys	Pro	Gly 215	Arg	Gln	Ala	Ile	Gly 220	Ala	Pro	Ser	Val
Pro 225	Leu	Val	Asp	Ala	Glu 230	Ile	Ala	Val	Asp	Gln 235	His	Val	Ala	Gln	Ser 240
Gly	Gln	Arg	Pro	Thr 245	Val	Glu	Ala	Gly	His 250	Pro	Gln	Val	Ala	Gly 255	His



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Glu Ser Val Ala Cys Leu Pro Ala Arg Trp Arg Leu Leu Ala Ala Ser  
 20 25 30  
 Met Arg Cys Pro Met Pro Met Ala Val Thr Leu Ala Ala Pro Leu Asn  
 35 40 45  
 Cys Ile Arg Leu Gly Ser Thr Trp Val Pro Ala Thr Val Met Arg Cys  
 50 55 60  
 Ala Glu Thr Leu Ala Pro Leu Gln Lys Pro Ser Gln Arg Ser Ala Pro  
 65 70 75 80

<210> 469  
 <211> 135  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 40689 right: 41093 frame: 1 size(aa): 135

<400> 469  
 Arg Gln Leu Arg His Pro Gly Leu Pro Tyr Pro Asp Val Phe Arg Leu  
 1 5 10 15  
 Arg His Leu Arg Ser Tyr Lys Leu Leu His Ala Val Gln Arg His Leu  
 20 25 30  
 Arg Cys Ala Gly Gly Gly Asn Asp Trp His Arg Asp Arg Phe His Ser  
 35 40 45  
 Arg Gly Ala Asp Val Arg His Leu Gly Gly Arg Ser Gly Ala Val Gly  
 50 55 60  
 Arg Gly Gly Pro Gly Asn Pro Leu Arg Ala Ala Thr Ala Trp Ala Gly  
 65 70 75 80  
 Asn Ser Pro Leu Pro Ala Leu Leu His Val Leu Ser Gly Gln Arg Gln  
 85 90 95  
 Gly Gly Gly Pro Arg Gly Trp Gly Pro Leu Arg Ser Gln Arg Gln Leu  
 100 105 110  
 Pro Thr Ala Asp Ala Gly Gln Ser Asp Ala Gly Leu Asn Arg Ala Arg  
 115 120 125  
 Ser Gly Arg Pro Trp Gly Ala  
 130 135

<210> 470  
 <211> 67  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 40898 right: 41098 frame: 3 size(aa): 67

<400> 470  
 Pro Pro Ser Ser Gly Asp Arg Leu Gly Trp Lys Gln Pro Phe Ala Ser  
 1 5 10 15  
 Ala Thr Ser Arg Ser Phe Arg Ser Thr Ser Gly Arg Arg Pro Gln Gly  
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20 25 30

Leu Gly Pro Ser Thr Leu Thr Ala Ser Ala Ser His Ser Gly Cys Gly  
35 40 45

Pro Ile Arg Arg Trp Ala Gln Ser Cys Pro Ile Arg Lys Ala Leu Gly  
50 55 60

Arg Leu Thr  
65

<210> 471  
<211> 53  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> New ORF = left: 41062 right: 41220 frame: -2 size(aa): 53

<400> 471

Phe Gly Gly Gly Gly Gly Ser Glu Val Gln Val Val Gly Val Arg Pro  
1 5 10 15

Gly Gly Val Asp His His Leu His Gln Asp Pro Val Gly Gly Arg Ala  
20 25 30

Arg Asp Gly Asp Ala Gly Ala Val Gln Val Lys Arg Pro Arg Ala Phe  
35 40 45

Arg Ile Gly His Asp  
50

<210> 472  
<211> 190  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> New ORF = left: 41097 right: 41666 frame: 1 size(aa): 190

<400> 472

Leu Glu Arg Arg Arg His His Arg His Gly Arg Asp His Leu Arg Gly  
1 5 10 15

Pro Gly Ala Asp Gly Gly Gln Leu Pro Arg Gly Gly Leu Leu Leu Pro  
20 25 30

Ala Leu Gln Ser Leu Arg His Arg Arg Thr Met Ser Tyr Arg Leu Thr  
35 40 45

Asp Ser Ser Ser Val Val Arg Leu Ala Asp Gly Ala Thr Ile Pro Ala  
50 55 60

Asp Pro Arg Asn Thr Asp Arg Gln Glu Tyr Glu Ala Trp Leu Ala Ala  
65 70 75 80

Gly Asn Val Pro Glu Pro Ala Pro Ala Pro Gly Ala Pro Pro Leu Ala  
85 90 95

Leu Gly Asp Trp Gly Ala Phe Leu Glu Leu Val Ile Ala Ala Pro Val  
100 105 110



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Tyr Gln Thr Ile Tyr Ala Gln Ser Ala Gln Ser Leu Pro Val Asn Thr  
115 120 125

Ala Phe Thr Ala Ile Ser Gly Ala Leu Val Leu Gly Ala Gly Gly Arg  
130 135 140

Pro Asn Leu Ala Gly Leu Gln Ser Gly Val Asp Gln Leu Leu Gln Ala  
145 150 155 160

Ala Val Leu Thr Ala Glu Asp Leu Asp Gln Leu Arg Asp Ile Ala Glu  
165 170 175

Gln Thr Gly Ile Pro Leu Gln Ile Pro Thr Pro Thr Pro Gln  
180 185 190

<210> 473  
<211> 152  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> New ORF = left: 41102 right: 41557 frame: 3 size(aa): 152

<400> 473

Thr Ala Pro Ala Ser Pro Ser Arg Ala Arg Pro Pro Thr Gly Ser Trp  
1 5 10 15

Cys Arg Trp Trp Ser Thr Pro Pro Gly Arg Thr Pro Thr Thr Cys Thr  
20 25 30

Ser Glu Pro Pro Pro Pro Pro Asn Tyr Glu Leu Pro Ser Asp Arg Phe  
35 40 45

Gln Gln Arg Arg Pro Ser Arg Arg Arg Arg His His Pro Arg Arg Pro  
50 55 60

Pro Gln His Arg Pro Ala Gly Ile Arg Gly Met Ala Gly Arg Arg Glu  
65 70 75 80

Arg Pro Gly Ala Cys Pro Gly Thr Gly Gly Ala Pro Ala Arg Pro Gly  
85 90 95

Arg Leu Gly Gly Leu Pro Gly Ala Arg Asp Arg Arg Pro Gly Leu Pro  
100 105 110

Asp Asp Leu Arg Pro Val Gly Ala Val Ala Ala Gly Glu Tyr Arg Leu  
115 120 125

His Arg His Leu Gly Gly Pro Gly Val Gly Arg Arg Gly Ala Pro Gln  
130 135 140

Pro Gly Arg Pro Thr Val Gly Cys  
145 150

<210> 474  
<211> 118  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> New ORF = left: 41190 right: 41543 frame: -1 size(aa): 118

<400> 474

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Ala Gly Gln Val Gly Ala Pro Pro Gly Ala Gln His Gln Gly Pro Arg  
 1 5 10 15  
 Asp Gly Gly Glu Gly Gly Ile His Arg Gln Arg Leu Arg Arg Leu Gly  
 20 25 30  
 Val Asp Arg Leu Val Asp Arg Gly Gly Asp His Glu Leu Gln Glu Gly  
 35 40 45  
 Pro Pro Ile Ala Gln Gly Glu Arg Gly Arg Pro Arg Cys Arg Gly Arg  
 50 55 60  
 Leu Arg Asp Val Pro Gly Gly Gln Pro Cys Leu Val Phe Leu Pro Val  
 65 70 75 80  
 Gly Val Ala Gly Val Gly Gly Asp Gly Gly Ala Val Gly Glu Thr Asp  
 85 90 95  
 Asp Ala Ala Gly Ile Gly Gln Thr Val Ala His Ser Ser Ala Val Ala  
 100 105 110  
 Glu Ala Leu Lys Cys Arg  
 115

<210> 475  
 <211> 87  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 41224 right: 41484 frame: -2 size(aa): 87

<400> 475  
 Arg Arg Tyr Ser Pro Ala Ala Thr Ala Pro Thr Gly Arg Arg Ser Ser  
 1 5 10 15  
 Gly Arg Pro Gly Arg Arg Ser Arg Ala Pro Gly Arg Pro Pro Asn Arg  
 20 25 30  
 Pro Gly Arg Ala Gly Ala Pro Pro Val Pro Gly Gln Ala Pro Gly Arg  
 35 40 45  
 Ser Arg Arg Pro Ala Met Pro Arg Ile Pro Ala Gly Arg Cys Cys Gly  
 50 55 60  
 Gly Arg Arg Gly Trp Trp Arg Arg Arg Arg Asp Gly Arg Arg Cys Trp  
 65 70 75 80  
 Asn Arg Ser Asp Gly Ser Ser  
 85

<210> 476  
 <211> 67  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 41231 right: 41431 frame: -3 size(aa): 67

<400> 476  
 Thr Gly Ala Ala Ile Thr Ser Ser Arg Lys Ala Pro Gln Ser Pro Arg  
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1 5 10 15  
 Ala Ser Gly Gly Ala Pro Gly Ala Gly Ala Gly Ser Gly Thr Phe Pro  
                   20                  25                  30  
 Ala Ala Ser His Ala Ser Tyr Ser Cys Arg Ser Val Leu Arg Gly Ser  
                   35                  40                  45  
 Ala Gly Met Val Ala Pro Ser Ala Arg Arg Thr Thr Leu Leu Glu Ser  
                   50                  55                  60  
 Val Arg Arg  
 65

<210> 477  
 <211> 59  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 41239 right: 41415 frame: 2 size(aa): 59

<400> 477  
 Pro Ile Pro Ala Ala Ser Ser Val Ser Pro Thr Ala Pro Pro Ser Pro  
 1                  5                  10                  15  
 Pro Thr Pro Ala Thr Pro Thr Gly Arg Asn Thr Arg His Gly Trp Pro  
                   20                  25                  30  
 Pro Gly Thr Ser Arg Ser Leu Pro Arg His Arg Gly Arg Pro Arg Ser  
                   35                  40                  45  
 Pro Trp Ala Ile Gly Gly Pro Ser Trp Ser Ser  
                   50                  55

<210> 478  
 <211> 594  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 41447 right: 43228 frame: -3 size(aa): 594

<400> 478  
 Val Pro Leu Val Ala Leu Thr Ala Gly Asp Ile Asp Val Asp Asn Glu  
 1                  5                  10                  15  
 Asp Val Arg Arg His Gln Gly Arg Gln His Gly Gln Gln Asp Gly Gly  
                   20                  25                  30  
 Glu Pro Gly Arg Ser Ile His Glu Trp Ala Gly Ser Leu Gly Ala Leu  
                   35                  40                  45  
 Gly His Gly Thr Gln Ala Pro Ile Asp Ser Glu Leu Pro Arg Ile Ile  
                   50                  55                  60  
 Cys Pro Gln Pro Ala Asp Glu Arg Leu Glu Ile Gly Gln Gly Pro Glu  
 65                  70                  75                  80  
 Ala Asp Ala Ala Gly Arg Pro Gly Glu His Val Leu Val Thr Val Gln  
                   85                  90                  95

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Val	Ser	Phe	Asp	Gly	Arg	Ala	Ser	Gly	Leu	Ala	Arg	Ala	Lys	Pro	Gly
			100					105					110		
Glu	Arg	His	Arg	Arg	Gly	Ala	Gln	Ala	Leu	Ala	Pro	Ala	Gly	Val	Ile
		115					120					125			
Val	Val	Phe	Ala	Ala	Gly	Pro	Gly	Asp	Val	Leu	Asp	Ala	Pro	Glu	Pro
	130					135					140				
Leu	Arg	Asp	Arg	Leu	His	Ala	Ala	Ala	Leu	Ala	Ala	Gly	Pro	Gly	Ala
145					150					155					160
Glu	Asp	Leu	Val	Pro	Gly	Leu	Ala	Ala	Asp	Gly	Gln	Glu	Ile	Ala	Leu
				165					170					175	
Gly	Asp	Ala	Ala	Val	His	Pro	Leu	Glu	Ala	Gln	Glu	Leu	Glu	Ala	Pro
			180					185					190		
Ala	Val	Asp	Leu	Pro	Gly	Ala	Gly	Gln	Glu	Glu	Ser	Gly	Leu	Leu	Gly
		195					200					205			
Leu	Gly	Arg	Pro	Ala	Pro	Gln	Val	Ala	Leu	Gly	His	Pro	Ala	Val	Pro
	210					215					220				
Glu	Pro	Leu	Leu	Asp	Val	Ala	Ala	Gly	Val	Asp	Val	Gln	Glu	His	Arg
225					230					235					240
Pro	Gly	His	Leu	Arg	Glu	Leu	Ala	Leu	Gly	Glu	Leu	Gly	Arg	Gln	Gly
				245					250					255	
Gly	Val	Ala	Val	Gly	Gly	Pro	Val	Pro	Val	Pro	Ala	Cys	Val	Val	Gly
			260					265					270		
Glu	Arg	Gln	Glu	Gly	Gly	Leu	Leu	Val	Gly	Gly	Glu	Leu	Gly	Pro	Val
		275					280					285			
Gly	Asp	Gly	Leu	Gly	Gln	Gly	Arg	Leu	Val	Leu	Leu	Asp	Pro	Gly	Ala
	290					295					300				
Gln	His	Leu	Val	Gly	Leu	Arg	Cys	Gly	Asp	Arg	Val	Ala	Leu	Ala	Asp
305					310					315					320
Arg	Pro	Ala	Val	Gly	His	Pro	Gly	Ala	Ala	Pro	Ala	Asp	Arg	Pro	Gly
				325					330					335	
Ile	Ala	Leu	Gly	Ala	Gly	Val	Gly	Ile	Gly	Leu	Glu	Leu	Ala	Pro	Leu
			340					345					350		
Glu	Gln	Leu	Asp	Gln	Gly	Gln	Gly	Pro	Ile	His	Arg	Phe	Arg	Gly	Val
		355					360					365			
Gly	Leu	Ala	Val	Ala	Ala	Gly	Pro	Gly	Gly	Val	Leu	Val	Glu	His	Leu
	370					375					380				
Leu	Gly	Gly	His	Pro	Leu	Gly	Asp	Gly	Val	Lys	Gln	His	Arg	Gly	Thr
385					390					395					400
Gly	Asp	Leu	Val	Gly	Leu	Pro	Leu	Glu	Glu	Pro	Glu	Pro	Val	Glu	Glu
				405					410					415	
Pro	Ala	Leu	Arg	His	Arg	Pro	Arg	His	Arg	Ser	Ala	Pro	Gln	Leu	Gly
			420					425					430		
Asp	Leu	Val	Ala	Gln	Gly	Leu	Gln	Val	Leu	Thr	Asp	Gly	Leu	Asp	Leu
		435					440					445			
Leu	Val	Leu	Ala	Ala	Gln	Gly	Ala	Gly	His	Gly	Asp	Gln	Leu	Gly	Glu
	450					455					460				

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Arg Leu Gln Asp Ala Val Glu Pro Leu Glu Pro Ala Thr Gln Glu Gly  
 465 470 475 480  
 Gln Glu Leu Val Glu Gly Glu Gln His Gln Glu Asp His Ala Gln Gly  
 485 490 495  
 Val Glu Ala Ala Asp Ile Gly Thr Gly Arg Gly Gly Glu Arg Ala Asp  
 500 505 510  
 Leu Leu Asp Gln Gly Leu Glu Arg His Cys Gly Val Gly Val Gly Ile  
 515 520 525  
 Cys Arg Gly Met Pro Val Cys Ser Ala Met Ser Arg Ser Trp Ser Arg  
 530 535 540  
 Ser Ser Ala Val Arg Thr Ala Ala Cys Ser Ser Trp Ser Thr Pro Asp  
 545 550 555 560  
 Cys Arg Pro Ala Arg Leu Gly Arg Pro Pro Ala Pro Asn Thr Arg Ala  
 565 570 575  
 Pro Glu Met Ala Val Lys Ala Val Phe Thr Gly Ser Asp Cys Ala Asp  
 580 585 590

Trp Ala

<210> 479  
 <211> 161  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 41488 right: 41970 frame: -2 size(aa): 161

<400> 479

Asp Ile Gly Arg Val Ile Ala Gln Arg Pro Ser Leu Glu Ile Trp Ser  
 1 5 10 15  
 Arg Arg Asp Ser Arg Ser Leu Arg Met Ala Ser Ile Cys Ser Ser Ser  
 20 25 30  
 Arg Arg Arg Gly Arg Ala Met Ala Thr Ser Trp Val Asn Asp Cys Arg  
 35 40 45  
 Thr Pro Leu Asn Arg Leu Asn Arg Pro Pro Arg Lys Gly Arg Ser Ser  
 50 55 60  
 Ser Arg Ala Asn Ser Thr Arg Lys Thr Thr Pro Arg Gly Ser Arg Leu  
 65 70 75 80  
 Pro Thr Ser Ala Pro Val Gly Ala Gly Ser Gly Leu Ile Cys Trp Thr  
 85 90 95  
 Arg Asp Trp Ser Val Ile Ala Gly Trp Gly Trp Gly Ser Ala Gly Gly  
 100 105 110  
 Cys Arg Ser Ala Arg Arg Cys Arg Ala Ala Gly Pro Gly Leu Arg Arg  
 115 120 125  
 Ser Gly Pro Gln Pro Ala Ala Ala Gly Gln His Pro Thr Val Gly Arg  
 130 135 140  
 Pro Gly Trp Gly Ala Pro Arg Arg Pro Thr Pro Gly Pro Pro Arg Trp

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155

145                      150                      160

Arg

<210> 480  
<211> 129  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> New ORF = left: 41561 right: 41947 frame: 3 size(aa): 129

<400> 480

Pro Ala Ala Ala Gly Cys Gly Pro Asp Arg Arg Arg Pro Gly Pro Ala  
1                      5                      10                      15

Ala Arg His Arg Arg Ala Asp Arg His Pro Pro Ala Asp Pro His Pro  
20                      25                      30

His Pro Ala Met Thr Leu Gln Ser Leu Val Gln Gln Ile Ser Pro Leu  
35                      40                      45

Pro Ala Pro Thr Gly Ala Asp Val Gly Ser Leu Asp Pro Leu Gly Val  
50                      55                      60

Val Phe Leu Val Leu Phe Ala Leu Asp Glu Leu Leu Pro Phe Leu Gly  
65                      70                      75                      80

Gly Arg Phe Lys Arg Phe Asn Gly Val Leu Gln Ser Phe Thr Gln Leu  
85                      90                      95

Val Ala Met Ala Arg Pro Leu Arg Arg Glu Asp Glu Gln Ile Glu Ala  
100                      105                      110

Ile Arg Lys Asp Leu Glu Ser Leu Arg Asp Gln Ile Ser Lys Leu Gly  
115                      120                      125

Arg

<210> 481  
<211> 105  
<212> PRT  
<213> Cyanophage S-2L

<220>  
<221> misc\_feature  
<223> New ORF = left: 41587 right: 41901 frame: 2 size(aa): 105

<400> 481

Pro Pro Lys Thr Trp Thr Ser Cys Ala Thr Ser Pro Ser Arg Pro Ala  
1                      5                      10                      15

Ser Pro Cys Arg Ser Pro Pro Pro Arg Asn Asp Ala Pro Ile Pro  
20                      25                      30

Gly Pro Thr Asp Gln Pro Ala Pro Arg Pro Asp Arg Cys Arg Cys Arg  
35                      40                      45

Gln Pro Arg Pro Pro Gly Arg Gly Leu Pro Gly Ala Val Arg Pro Arg  
50                      55                      60

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Arg Ala Pro Ala Leu Pro Gly Trp Pro Val Gln Ala Val Gln Arg Arg  
65 70 75 80

Pro Ala Val Val His Pro Ala Gly Arg His Gly Pro Pro Pro Ala Pro  
85 90 95

Arg Gly Arg Ala Asp Arg Gly His Pro  
100 105

<210> 482

<211> 95

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 41670 right: 41954 frame: 1 size(aa): 95

<400> 482

Arg Ser Asn Pro Trp Ser Asn Arg Ser Ala Arg Ser Pro Pro Arg Pro  
1 5 10 15

Val Pro Met Ser Ala Ala Ser Thr Pro Trp Ala Trp Ser Ser Trp Cys  
20 25 30

Cys Ser Pro Ser Thr Ser Ser Cys Pro Ser Trp Val Ala Gly Ser Ser  
35 40 45

Gly Ser Thr Ala Ser Cys Ser Arg Ser Pro Ser Trp Ser Pro Trp Pro  
50 55 60

Ala Pro Cys Ala Ala Arg Thr Ser Arg Ser Arg Pro Ser Val Arg Thr  
65 70 75 80

Trp Ser Pro Cys Ala Thr Arg Ser Pro Ser Trp Gly Ala Glu Arg  
85 90 95

<210> 483

<211> 115

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 41841 right: 42185 frame: -1 size(aa): 115

<400> 483

Ala Arg Ala Pro Arg Thr Ala Gly Ser Gly Ala Gly Pro Asp Pro Pro  
1 5 10 15

Ile Ser Arg Cys Trp Ala Gly Cys Ser Gly Gly Pro Arg Gly Arg Pro  
20 25 30

Arg Arg Ala Pro Ala Arg Arg Ala Pro Pro Gly Arg Trp Arg Gln Thr  
35 40 45

Ala Ser Arg His Arg Arg Pro Gly Gly Ala Pro Pro Arg Arg Thr Gly  
50 55 60

Thr Gly Arg Gly Thr Gly Phe Glu Thr Ser Ala Ala Ser Ser Leu Ser  
65 70 75 80

Ala Pro Ala Trp Arg Ser Gly Arg Ala Gly Thr Pro Gly Pro Tyr Gly  
85 90 95

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Trp Pro Arg Ser Ala Arg Pro Arg Gly Ala Gly Gly Gly Pro Trp Arg  
 100 105 110

Pro Ala Gly  
 115

<210> 484

<211> 381

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 41951 right: 43093 frame: 3 size(aa): 381

<400> 484

Ala Met Thr Arg Pro Met Ser Gln Ser Arg Phe Leu Asp Arg Phe Arg  
 1 5 10 15

Phe Phe Glu Gly Glu Pro His Gln Val Ser Gly Ala Ser Met Leu Phe  
 20 25 30

Asp Ala Ile Ser Gln Gly Val Pro Ala Glu Gln Val Leu Asp Glu Asp  
 35 40 45

Ala Pro Trp Ala Arg Arg Tyr Ser Gln Pro Asn Thr Ser Lys Ser Val  
 50 55 60

Asp Arg Ala Leu Pro Leu Ile Gln Leu Phe Glu Gly Arg Glu Leu Lys  
 65 70 75 80

Ala Tyr Pro Asp Pro Gly Thr Lys Gly Asp Pro Trp Thr Ile Gly Trp  
 85 90 95

Gly Ser Thr Arg Met Pro Asp Gly Arg Pro Val Arg Lys Gly Asp Thr  
 100 105 110

Val Thr Ala Ala Gln Ala Asp Gln Met Leu Arg Thr Trp Val Glu Gln  
 115 120 125

Asp Glu Ala Ala Leu Ala Lys Ala Ile Pro Asn Trp Ala Lys Leu Thr  
 130 135 140

Thr Asp Gln Gln Ala Ala Leu Leu Ser Phe Thr Tyr Asn Ala Gly Arg  
 145 150 155 160

Asp Trp Tyr Gly Pro Ser Asn Gly Tyr Ala Thr Leu Ser Ala Lys Leu  
 165 170 175

Ala Glu Gly Lys Leu Ser Glu Val Pro Arg Ala Met Leu Leu Tyr Val  
 180 185 190

Asn Pro Gly Ser Asp Val Glu Glu Gly Leu Arg Asn Arg Arg Met Ala  
 195 200 205

Glu Gly Asp Leu Trp Gly Arg Pro Pro Gln Ala Gln Lys Pro Arg Leu  
 210 215 220

Leu Leu Thr Arg Thr Arg Gln Ile Asp Gly Arg Gly Leu Glu Leu Leu  
 225 230 235 240

Arg Leu Gln Arg Met His Gly Ser Val Ser Lys Gly Asp Leu Leu Thr  
 245 250 255

Val Ser Gly Gln Ala Arg Asn Gln Val Phe Arg Thr Gly Ala Ser Ser  
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260 270  
Lys Ser Gly Ser Met Glu Pro Ile Pro Glu Gly Leu Trp Arg Val Glu  
275 280 285  
Asn Ile Ala Trp Ala Gly Gly Lys Asp Asn Tyr Asn Ala Ser Trp Gly  
290 295 300  
Glu Gly Leu Gly Pro Ala Ser Val Pro Leu Thr Trp Leu Gly Pro Gly  
305 310 315 320  
Lys Thr Gly Arg Ser Ala Ile Glu Ala His Leu Asp Ser Asn Gln Asn  
325 330 335  
Val Phe Pro Gly Thr Ala Gly Cys Ile Gly Phe Arg Ser Leu Ala Asp  
340 345 350  
Leu Gln Thr Phe Ile Gly Trp Leu Arg Ala Asp Asp Pro Arg Glu Leu  
355 360 365  
Thr Val Asp Trp Gly Leu Gly Thr Val Pro Lys Arg Pro  
370 375 380

<210> 485  
<211> 67  
<212> PRT  
<213> Cyanophage S-2L  
  
<220>  
<221> misc\_feature  
<223> New ORF = left: 41958 right: 42158 frame: 1 size(aa): 67

<400> 485  
Arg Gly Arg Cys Leu Lys Ala Gly Ser Ser Thr Gly Ser Gly Ser Ser  
1 5 10 15  
Arg Gly Ser Pro Thr Arg Ser Pro Val Pro Arg Cys Cys Leu Thr Pro  
20 25 30  
Ser Pro Arg Gly Cys Pro Pro Ser Arg Cys Ser Thr Arg Thr Pro Pro  
35 40 45  
Gly Pro Ala Ala Thr Ala Ser Pro Thr Pro Arg Asn Arg Trp Ile Gly  
50 55 60  
Pro Cys Pro  
65

<210> 486  
<211> 266  
<212> PRT  
<213> Cyanophage S-2L  
  
<220>  
<221> misc\_feature  
<223> New ORF = left: 42049 right: 42846 frame: 2 size(aa): 266

<400> 486  
Arg His Leu Pro Gly Gly Ala Arg Arg Ala Gly Ala Arg Arg Gly Arg  
1 5 10 15  
Pro Leu Gly Pro Pro Leu Gln Pro Ala Gln His Leu Glu Ile Gly Gly  
20 25 30

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Ser Gly Pro Ala Pro Asp Pro Ala Val Arg Gly Ala Arg Ala Gln Gly  
35 40 45  
Leu Ser Arg Pro Arg His Gln Gly Arg Ser Leu Asp Asp Arg Leu Gly  
50 55 60  
Gln His Pro Asp Ala Arg Arg Pro Ala Gly Pro Gln Gly Arg His Gly  
65 70 75 80  
His Arg Ser Ala Gly Arg Pro Asp Ala Ala His Leu Gly Arg Ala Gly  
85 90 95  
Arg Gly Gly Pro Gly Gln Gly His Pro Gln Leu Gly Gln Ala His His  
100 105 110  
Arg Pro Ala Gly Arg Pro Pro Val Val His Leu Gln Arg Arg Pro Gly  
115 120 125  
Leu Val Arg Ala Leu Gln Arg Leu Arg His Pro Val Gly Gln Ala Arg  
130 135 140  
Arg Gly Gln Ala Leu Gly Gly Ala Pro Gly Asp Ala Pro Val Arg Gln  
145 150 155 160  
Pro Arg Gln Arg Arg Arg Gly Gly Ala Pro Glu Pro Pro Asp Gly Arg  
165 170 175  
Gly Arg Pro Val Gly Pro Ala Ala Pro Gly Pro Glu Ala Gln Thr Pro  
180 185 190  
Pro Asp Pro His Pro Ala Asp Arg Arg Pro Gly Pro Arg Ala Pro Ala  
195 200 205  
Pro Pro Ala Asp Ala Arg Gln Arg Leu Gln Gly Arg Ser Pro Asp Arg  
210 215 220  
Gln Arg Pro Gly Pro Glu Pro Gly Leu Pro His Arg Gly Gln Gln Gln  
225 230 235 240  
Glu Arg Gln His Gly Ala Asp Pro Gly Gly Ala Leu Ala Arg Arg Glu  
245 250 255  
His Arg Leu Gly Arg Arg Gln Arg Gln Leu  
260 265

<210> 487

<211> 155

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 42162 right: 42626 frame: 1 size(aa): 155

<400> 487

Ser Ser Cys Ser Arg Gly Ala Ser Ser Arg Pro Ile Pro Thr Pro Ala  
1 5 10 15  
Pro Arg Ala Ile Pro Gly Arg Ser Ala Gly Ala Ala Pro Gly Cys Pro  
20 25 30  
Thr Ala Gly Arg Ser Ala Arg Ala Thr Arg Ser Pro Gln Arg Arg Pro  
35 40 45  
Thr Arg Cys Cys Ala Pro Gly Ser Ser Arg Thr Arg Arg Pro Trp Pro  
50 55 60

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Arg Pro Ser Pro Thr Gly Pro Ser Ser Pro Pro Thr Ser Arg Pro Pro  
65 70 75 80  
Ser Cys Arg Ser Pro Thr Thr Gln Ala Gly Thr Gly Thr Gly Pro Pro  
85 90 95  
Thr Ala Thr Pro Pro Cys Arg Pro Ser Ser Pro Arg Ala Ser Ser Arg  
100 105 110  
Arg Cys Pro Gly Arg Cys Ser Cys Thr Ser Thr Pro Ala Ala Thr Ser  
115 120 125  
Arg Arg Gly Ser Gly Thr Ala Gly Trp Pro Arg Ala Thr Cys Gly Ala  
130 135 140  
Gly Arg Pro Arg Pro Arg Ser Pro Asp Ser Ser  
145 150 155

<210> 488  
<211> 73  
<212> PRT  
<213> Cyanophage S-2L  
<220>  
<221> misc\_feature  
<223> New ORF = left: 42196 right: 42414 frame: -2 size(aa): 73

<400> 488  
Val Asn Asp Arg Arg Ala Ala Cys Trp Ser Val Val Ser Leu Ala Gln  
1 5 10 15  
Leu Gly Met Ala Leu Ala Arg Ala Ala Ser Ser Cys Ser Thr Gln Val  
20 25 30  
Arg Ser Ile Trp Ser Ala Cys Ala Ala Val Thr Val Ser Pro Leu Arg  
35 40 45  
Thr Gly Arg Pro Ser Gly Ile Arg Val Leu Pro Gln Pro Ile Val Gln  
50 55 60  
Gly Ser Pro Leu Val Pro Gly Ser Gly  
65 70

<210> 489  
<211> 129  
<212> PRT  
<213> Cyanophage S-2L  
<220>  
<221> misc\_feature  
<223> New ORF = left: 42457 right: 42843 frame: -2 size(aa): 129

<400> 489  
Leu Ser Leu Pro Pro Ala Gln Ala Met Phe Ser Thr Arg Gln Ser Pro  
1 5 10 15  
Ser Gly Ile Gly Ser Met Leu Pro Leu Leu Leu Leu Ala Pro Val Arg  
20 25 30  
Lys Thr Trp Phe Arg Ala Trp Pro Leu Thr Val Arg Arg Ser Pro Leu  
35 40 45  
Glu Thr Leu Pro Cys Ile Arg Trp Arg Arg Arg Ser Arg Pro Arg  
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50                      55                      60  
 Pro Ser Ile Cys Arg Val Arg Val Arg Arg Ser Leu Gly Phe Trp Ala  
 65                      70                      75                      80  
 Trp Gly Gly Arg Pro His Arg Ser Pro Ser Ala Ile Arg Arg Phe Arg  
                     85                      90                      95  
 Ser Pro Ser Ser Thr Ser Leu Pro Gly Leu Thr Tyr Arg Ser Ile Ala  
                     100                      105                      110  
 Arg Gly Thr Ser Glu Ser Leu Pro Ser Ala Ser Leu Ala Asp Arg Val  
                     115                      120                      125

Ala

<210> 490  
 <211> 64  
 <212> PRT  
 <213> Cyanophage S-2L  
  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 42528 right: 42719 frame: -1 size(aa): 64

<400> 490

Arg Ser Gly Asp Arg Pro Trp Arg Arg Cys Arg Ala Ser Ala Gly Gly  
 1                      5                      10                      15  
 Ala Gly Ala Arg Gly Pro Gly Arg Arg Ser Ala Gly Cys Gly Ser Gly  
                     20                      25                      30  
 Gly Val Trp Ala Ser Gly Pro Gly Ala Ala Gly Pro Thr Gly Arg Pro  
                     35                      40                      45  
 Arg Pro Ser Gly Gly Ser Gly Ala Pro Pro Arg Arg Arg Cys Arg Gly  
                     50                      55                      60

<210> 491  
 <211> 132  
 <212> PRT  
 <213> Cyanophage S-2L  
  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 42717 right: 43112 frame: 1 size(aa): 132

<400> 491

Pro Ser Ala Ala Arg Pro Gly Thr Arg Ser Ser Ala Pro Gly Pro Ala  
 1                      5                      10                      15  
 Ala Arg Ala Ala Ala Trp Ser Arg Ser Arg Arg Gly Ser Gly Ala Ser  
                     20                      25                      30  
 Arg Thr Ser Pro Gly Pro Ala Ala Lys Thr Thr Ile Thr Pro Ala Gly  
                     35                      40                      45  
 Ala Arg Ala Trp Ala Pro Arg Arg Cys Arg Ser Pro Gly Leu Ala Leu  
                     50                      55                      60  
 Ala Arg Pro Asp Ala Arg Pro Ser Lys Leu Thr Trp Thr Val Thr Lys  
 65                      70                      75                      80

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Thr Cys Ser Pro Gly Arg Pro Ala Ala Ser Ala Ser Gly Pro Trp Pro  
85 90  
Ile Ser Arg Arg Ser Ser Ala Gly Cys Gly Gln Met Ile Leu Gly Ser  
100 105 110  
Ser Leu Ser Ile Gly Ala Trp Val Pro Cys Pro Ser Ala Pro Asn Asp  
115 120 125  
Pro Ala His Ser  
130

<210> 492  
<211> 56  
<212> PRT  
<213> Cyanophage S-2L  
<220>  
<221> misc\_feature  
<223> New ORF = left: 42723 right: 42890 frame: -1 size(aa): 56

<400> 492  
Ala Ala Pro Thr Arg Gly Pro Gly Pro Arg Pro Ser Trp Arg Tyr Ser  
1 5 10 15  
Cys Leu Cys Arg Arg Pro Arg Arg Cys Ser Arg Arg Ala Arg Ala Pro  
20 25 30  
Pro Gly Ser Ala Pro Cys Cys Arg Ser Cys Cys Trp Pro Arg Cys Gly  
35 40 45  
Arg Pro Gly Ser Gly Pro Gly Arg  
50 55

<210> 493  
<211> 51  
<212> PRT  
<213> Cyanophage S-2L  
<220>  
<221> misc\_feature  
<223> New ORF = left: 42940 right: 43092 frame: -2 size(aa): 51

<400> 493  
Gly Arg Leu Gly Thr Val Pro Arg Pro Gln Ser Thr Val Ser Ser Arg  
1 5 10 15  
Gly Ser Ser Ala Arg Ser Gln Pro Met Asn Val Trp Arg Ser Ala Arg  
20 25 30  
Asp Arg Lys Pro Met Gln Pro Ala Val Pro Gly Asn Thr Phe Trp Leu  
35 40 45  
Leu Ser Arg  
50

<210> 494  
<211> 110  
<212> PRT  
<213> Cyanophage S-2L  
<220>  
<221> misc\_feature  
<223> New ORF = left: 43097 right: 43426 frame: 3 size(aa): 110  
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&lt;400&gt; 494

```

Arg Pro Arg Pro Phe Val Asn Arg Pro Ala Trp Phe Ser Ala Ile Leu
1      5      10      15
Leu Thr Met Leu Ala Ala Leu Met Thr Ala His Ile Leu Val Ile His
20      25      30
Val Asp Val Ala Ser Cys Gln Ser His Lys Arg Tyr Leu Leu Glu Gln
35      40      45
Arg Arg Thr Gly Ser Leu Pro Gln Glu Leu Arg Asn Val Pro Asp Leu
50      55      60
Val Glu Ala Glu Cys Ala Asp Leu Glu Gly Lys Phe Arg Ser Val Val
65      70      75      80
Asp Gln Trp Val Ser Val Ile Leu Ser Leu Leu Gly Gly Ala Gly Val
85      90      95
Ala Ala Ala Met Gly Lys Pro Pro Thr Asp Gln Pro Gly Arg
100     105     110

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&lt;210&gt; 495

&lt;211&gt; 172

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 43120 right: 43635 frame: 2 size(aa): 172

&lt;400&gt; 495

```

Thr Gly Leu Val Leu Arg His Pro Ala Asp His Ala Gly Gly Pro Asp
1      5      10      15
Asp Gly Ala His Pro Arg Tyr Pro Arg Arg Cys Arg Gln Leu Ser Glu
20      25      30
Pro Gln Ala Val Pro Thr Arg Ala Ala Pro His Arg Gln Pro Ala Pro
35      40      45
Gly Ala Pro Glu Arg Ala Arg Pro Gly Gly Gly Gly Met Arg Arg Pro
50      55      60
Gly Gly Gln Val Ser Glu Arg Arg Gly Pro Val Gly Val Gly Asp Leu
65      70      75      80
Glu Ser Ala Arg Trp Arg Gly Gly Arg Arg Gly His Gly Gln Thr Ala
85      90      95
Asp Gly Ser Ala Gly Ala Leu Thr Pro Asp Ala His Gln Gly Ser His
100     105     110
Gln Ala Glu Arg Gln Tyr Glu Arg Gly Glu Asp His Gly Thr Ser Gly
115     120     125
Gly Ile Val Gly His Ala Arg Ala Arg Glu Arg Arg Arg Cys Arg Leu
130     135     140
Pro Ser Gly Thr Gln Pro Ser Gly Pro Met Pro Ser Ser Leu Thr Gly
145     150     155     160
Thr His Thr Thr Pro Gly Arg Arg Trp Gln Asp Pro

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165

<210> 496  
<211> 61  
<212> PRT  
<213> Cyanophage S-2L  
  
<220>  
<221> misc\_feature  
<223> New ORF = left: 43170 right: 43352 frame: 1 size(aa): 61

<400> 496

Arg Arg Thr Ser Ser Leu Ser Thr Ser Met Ser Pro Ala Val Arg Ala  
1 5 10 15  
Thr Ser Gly Thr Tyr Ser Ser Ser Ala Ala Pro Ala Ala Cys Pro Arg  
20 25 30  
Ser Ser Gly Thr Cys Pro Thr Trp Trp Arg Arg Asn Ala Pro Thr Trp  
35 40 45  
Arg Ala Ser Phe Gly Ala Ser Trp Thr Ser Gly Cys Arg  
50 55 60

<210> 497  
<211> 84  
<212> PRT  
<213> Cyanophage S-2L  
  
<220>  
<221> misc\_feature  
<223> New ORF = left: 43188 right: 43439 frame: -1 size(aa): 84

<400> 497

Ala Ser Gly Val Asn Ala Pro Ala Asp Pro Ser Ala Val Cys Pro Trp  
1 5 10 15  
Pro Arg Arg Pro Pro Arg His Arg Ala Asp Ser Arg Ser Pro Thr Pro  
20 25 30  
Thr Gly Pro Arg Arg Ser Glu Thr Cys Pro Pro Gly Arg Arg Ile Pro  
35 40 45  
Pro Pro Pro Gly Arg Ala Arg Ser Gly Ala Pro Gly Ala Gly Cys Arg  
50 55 60  
Cys Gly Ala Ala Arg Val Gly Thr Ala Cys Gly Ser Asp Ser Trp Arg  
65 70 75 80  
His Arg Arg Gly

<210> 498  
<211> 67  
<212> PRT  
<213> Cyanophage S-2L  
  
<220>  
<221> misc\_feature  
<223> New ORF = left: 43213 right: 43413 frame: -2 size(aa): 67

<400> 498

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Ser Val Gly Gly Leu Pro Met Ala Ala Thr Pro Ala Pro Pro Ser  
 1 5 10 15  
 Arg Leu Lys Ile Thr Asp Thr His Trp Ser Thr Thr Leu Arg Asn Leu  
 20 25 30  
 Pro Ser Arg Ser Ala His Ser Ala Ser Thr Arg Ser Gly Thr Phe Arg  
 35 40 45  
 Ser Ser Trp Gly Arg Leu Pro Val Arg Arg Cys Ser Ser Arg Tyr Arg  
 50 55 60  
 Leu Trp Leu  
 65

<210> 499  
 <211> 88  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 43213 right: 43413 frame: -2 size(aa): 67

<400> 499  
 Ser His Gly Leu Arg Leu Ala Arg Thr Val Ser Arg Pro Asp Gly Cys  
 1 5 10 15  
 Pro Gly Glu His Leu Gly Ser Thr Pro Arg Leu Ile Arg Arg Arg Phe  
 20 25 30  
 Ala His Gly Arg Gly Asp Pro Arg Ala Thr Glu Gln Thr Gln Asp His  
 35 40 45  
 Arg His Pro Leu Val His Asp Ala Pro Lys Leu Ala Leu Gln Val Gly  
 50 55 60  
 Ala Phe Arg Leu His Gln Val Gly His Val Pro Glu Leu Leu Gly Gln  
 65 70 75 80  
 Ala Ala Gly Ala Ala Leu Leu Glu  
 85

<210> 500  
 <211> 58  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 43417 right: 43590 frame: -2 size(aa): 58

<400> 500  
 Ala Ala Trp His Gly Ala Arg Trp Leu Gly Ser Thr Gly Glu Ala Ala  
 1 5 10 15  
 Pro Ser Pro Leu Ser Gly Ser Arg Met Ser Tyr Asp Pro Ala Ala Ser  
 20 25 30  
 Pro Met Val Phe Ala Ser Leu Val Leu Ser Leu Gly Leu Met Ala Ala  
 35 40 45  
 Leu Val Ser Ile Trp Gly Gln Arg Pro Gly  
 50 55



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<210> 501  
 <211> 59  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 43458 right: 43634 frame: -1 size(aa): 59

<400> 501  
 Gly Ser Cys His Leu Arg Pro Gly Val Val Cys Val Pro Val Lys Leu  
 1 5 10 15  
 Leu Gly Met Gly Pro Asp Gly Trp Val Pro Leu Gly Arg Arg His Leu  
 20 25 30  
 Arg Arg Ser Leu Ala Arg Ala Cys Pro Thr Ile Pro Pro Leu Val Pro  
 35 40 45  
 Trp Ser Ser Pro Arg Ser Tyr Cys Leu Ser Ala  
 50 55

<210> 502  
 <211> 111  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 43499 right: 43831 frame: -3 size(aa): 111

<400> 502  
 Ser Ser Pro Met Ala Arg Ser Pro Thr Thr Cys Pro Ser Gly Thr Ser  
 1 5 10 15  
 Pro Thr Ser Arg Pro Pro Gly Leu Ser Ser Ser Arg Thr Pro Pro Ser  
 20 25 30  
 Gly Thr Gly Thr Pro Pro Ala Thr Ser Arg Thr Cys Cys Ser Trp Pro  
 35 40 45  
 Ser Thr Thr Ala Thr Pro Trp Arg Arg Arg Met His Leu Arg Asp Thr  
 50 55 60  
 Leu Lys Asp Pro Ala Thr Ser Val Leu Val Leu Cys Val Phe Leu Leu  
 65 70 75 80  
 Ser Cys Leu Ala Trp Gly Pro Met Ala Gly Phe His Trp Gly Gly Gly  
 85 90 95  
 Thr Phe Ala Ala Leu Trp Leu Ala His Val Leu Arg Ser Arg Arg  
 100 105 110

<210> 503  
 <211> 111  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 43500 right: 43832 frame: 1 size(aa): 111

&lt;400&gt; 503

Arg Arg Asp Arg Arg Thr Cys Ala Ser Gln Arg Ala Ala Lys Val Pro  
 1 5 10 15  
 Pro Pro Gln Trp Asn Pro Ala Ile Gly Pro His Ala Lys Gln Leu Asn  
 20 25 30  
 Arg Asn Thr His Asn Thr Arg Thr Glu Val Ala Gly Ser Leu Ser Val  
 35 40 45  
 Ser Arg Arg Cys Ile Arg Arg Leu Gln Gly Val Ala Val Val Asp Gly  
 50 55 60  
 Gln Glu Gln Gln Val Leu Asp Val Ala Gly Gly Val Pro Val Pro Leu  
 65 70 75 80  
 Gly Gly Val Arg Glu Leu Asp Ser Pro Gly Gly Leu Glu Val Gly Asp  
 85 90 95  
 Val Pro Asp Gly Gln Val Val Gly Asp Arg Ala Ile Gly Glu Leu  
 100 105 110

&lt;210&gt; 504

&lt;211&gt; 175

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 43594 right: 44118 frame: -2 size(aa): 175

&lt;400&gt; 504

Ala Trp Pro Pro Ile Ser Arg Thr Lys Ala Thr Arg Pro Pro Thr Pro  
 1 5 10 15  
 Ser Lys Pro Pro Pro Ser Ser Leu Pro Pro Asp Asp His Pro Pro Gln  
 20 25 30  
 Ser Pro Ala Pro Asp Asp Pro Pro Arg His Gln Arg Arg Ala Pro His  
 35 40 45  
 Val Pro Gly Ala Leu Arg Pro Ser Leu Arg Pro Val Pro Pro Ala His  
 50 55 60  
 Gln Val Gly Pro Gly Pro Gly Pro Ala Leu Val Glu Pro Glu Ala Pro  
 65 70 75 80  
 Ser Gly Arg Pro Arg Asp Val Pro Glu Pro Gly Gly Arg Arg Ala Arg  
 85 90 95  
 Ala Pro Gln Trp Pro Asp His Leu Pro Pro Ala Arg Pro Val His Pro  
 100 105 110  
 Pro Pro Gln Gly Arg Arg Gly Cys Arg Ala Leu Glu Arg Pro Pro Val  
 115 120 125  
 Glu Arg Ala His His Gln Arg Arg Arg Gly Pro Ala Ala Pro Gly Arg  
 130 135 140  
 Gln Arg Arg Arg Pro Pro Gly Gly Gly Gly Cys Thr Cys Val Thr Arg  
 145 150 155 160  
 Leu Arg Ile Leu Pro Pro Pro Ser Trp Cys Cys Val Cys Ser Cys  
 165 170 175

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<210> 505  
 <211> 56  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 43639 right: 43806 frame: 2 size(aa): 56

<400> 505

Ala Cys His Ala Gly Ala Ser Ala Ala Ser Arg Gly Ser Pro Ser Leu  
 1 5 10 15  
 Thr Ala Arg Ser Ser Arg Ser Ser Thr Ser Leu Val Val Cys Pro Phe  
 20 25 30  
 His Trp Gly Ala Phe Glu Ser Ser Thr Ala Pro Ala Ala Leu Arg Trp  
 35 40 45  
 Gly Met Tyr Arg Thr Gly Arg Trp  
 50 55

<210> 506  
 <211> 329  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature  
 <223> New ORF = left: 43647 right: 44633 frame: -1 size(aa): 329

<400> 506

Pro Ala Arg Pro Gly Ala Val Pro Pro Gly Ala Gly Cys Pro Arg Pro  
 1 5 10 15  
 Arg Pro Cys Pro Pro Gly Gly Ala Pro Met Arg Pro Arg Arg Pro Arg  
 20 25 30  
 Ser Gly Pro Trp Ala Cys Arg Thr Ala Gln Arg Pro Ser Arg Pro Met  
 35 40 45  
 Glu Ala Thr Ser Arg Ala Ser Arg Gly Pro Leu Arg Pro Arg Ala Ser  
 50 55 60  
 Leu Arg Pro Ser Ser Ala Pro Gly Ala Ser Val Ala Gly Ser His Pro  
 65 70 75 80  
 Thr Ala Pro Pro Pro Met Pro Asp Cys Pro His Phe Thr Thr Ala Gln  
 85 90 95  
 Met Leu Gly Leu Glu Thr Ala Leu Gln Cys Ala Trp Glu Asp Leu Arg  
 100 105 110  
 Leu Glu Arg Ala Val Gly Cys Ser Pro Lys Gln Ala Ala Thr Tyr Phe  
 115 120 125  
 Val Gln His Leu Asp Gly Ser Leu Pro Phe Leu Gln Arg Leu Gly Ala  
 130 135 140  
 Thr Arg Ala Arg Arg Ala Gly Arg Ala Arg Ala Val Pro Arg Ala Ala  
 145 150 155 160  
 Pro Gly Ala Cys Leu Pro Ser Gln Ser Tyr Ala Glu Arg Gly Arg Pro  
 165 170 175

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Ser Pro Gly Gln Arg Leu His Ala Leu Arg Arg His Pro Asn Arg Leu  
180 185 190  
Pro Pro Arg Tyr Arg Pro Met Thr Thr Pro Arg Lys Ala Leu Leu Gln  
195 200 205  
Thr Thr Arg Pro Asp Thr Ser Asp Gly His His Thr Phe Arg Glu Leu  
210 215 220  
Tyr Ala His Arg Tyr Ala Leu Phe Leu Leu Leu Ile Lys Trp Ala Pro  
225 230 235 240  
Val Gln Ala Gln Pro Trp Trp Ser Arg Lys His His Leu Ala Gly Pro  
245 250 255  
Glu Met Tyr Pro Asn Gln Val Val Ala Gly Leu Glu Leu Pro Asn Gly  
260 265 270  
Pro Ile Thr Tyr His Leu Pro Val Arg Tyr Ile Pro His Leu Lys Ala  
275 280 285  
Ala Gly Ala Val Glu Leu Ser Asn Ala Pro Gln Trp Asn Gly His Thr  
290 295 300  
Thr Ser Asp Val Glu Asp Leu Leu Leu Leu Ala Val Asn Asp Gly Asp  
305 310 315 320  
Pro Leu Glu Ala Ala Asp Ala Pro Ala  
325

<210> 507  
<211> 67  
<212> PRT  
<213> Cyanophage S-2L  
<220>  
<221> misc\_feature  
<223> New ORF = left: 43835 right: 44035 frame: -3 size(aa): 67

<400> 507  
Pro Pro Pro Ala Lys Pro Cys Ser Arg Arg Pro Ala Pro Thr Pro Ala  
1 5 10 15  
Thr Gly Thr Thr Arg Ser Gly Ser Ser Thr Pro Ile Ala Thr Pro Cys  
20 25 30  
Ser Ser Cys Ser Ser Ser Gly Pro Arg Ser Arg Pro Ser Pro Gly Gly  
35 40 45  
Ala Gly Ser Thr Ile Trp Pro Ala Gln Arg Cys Thr Arg Thr Arg Trp  
50 55 60  
Ser Pro Gly  
65

<210> 508  
<211> 84  
<212> PRT  
<213> Cyanophage S-2L  
<220>  
<221> misc\_feature  
<223> New ORF = left: 43836 right: 44087 frame: 1 size(aa): 84

&lt;400&gt; 508

Pro Gly Asp His Leu Val Arg Val His Leu Trp Ala Gly Gln Met Val  
 1 5 10 15  
 Leu Pro Ala Pro Pro Gly Leu Gly Leu Asp Arg Gly Pro Leu Asp Glu  
 20 25 30  
 Gln Glu Glu Gln Gly Val Ala Met Gly Val Glu Leu Pro Glu Arg Val  
 35 40 45  
 Val Pro Val Ala Gly Val Gly Ala Gly Arg Leu Glu Gln Gly Phe Ala  
 50 55 60  
 Gly Gly Gly His Arg Ala Val Thr Arg Arg Glu Ala Val Trp Met Ala  
 65 70 75 80  
 Ser Glu Gly Val

&lt;210&gt; 509

&lt;211&gt; 142

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 43931 right: 44356 frame: 3 size(aa): 142

&lt;400&gt; 509

Ala Gly Gly Thr Gly Arg Ser Asp Gly Arg Arg Ala Pro Gly Thr Cys  
 1 5 10 15  
 Gly Ala Arg Arg Trp Cys Arg Gly Gly Ser Ser Gly Ala Gly Leu Cys  
 20 25 30  
 Gly Gly Trp Ser Ser Gly Gly Asn Glu Glu Gly Gly Gly Leu Asp Gly  
 35 40 45  
 Val Gly Gly Arg Val Ala Phe Val Leu Glu Met Gly Gly His Ala Gln  
 50 55 60  
 Arg Lys Ile Glu Thr Val Gly Lys Leu Arg Gly Gln Pro Trp Gly Arg  
 65 70 75 80  
 Pro Gly Leu Phe Arg Leu Ala Gly Pro Val Ser Arg Pro Gly Ala Ala  
 85 90 95  
 Gly Met Ala Gly Cys Arg Arg Gly Ala Gly Arg Asn Arg Trp Leu Pro  
 100 105 110  
 Ala Trp Ala Ser Ser Leu Arg Arg Ala Arg Gly Ala Asp Pro Pro Arg  
 115 120 125  
 Arg Ile Gly Gly Arg Phe Arg Gly Pro Ala Ser Gly Arg Trp  
 130 135 140

&lt;210&gt; 510

&lt;211&gt; 81

&lt;212&gt; PRT

&lt;213&gt; Cyanophage S-2L

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; New ORF = left: 44039 right: 44281 frame: -3 size(aa): 81

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<400> 510

Ala Ala Arg Pro Ser Arg Gln Pro Pro Ile Ser Ser Ser Thr Ser Thr  
1 5 10 15  
Ala Ala Cys His Ser Cys Ser Ala Trp Ala Arg His Gly Pro Gly Glu  
20 25 30  
Pro Glu Glu Pro Gly Pro Ser Pro Gly Leu Pro Pro Glu Leu Ala Tyr  
35 40 45  
Arg Leu Asn Leu Thr Leu Ser Val Ala Ala His Leu Gln Asp Lys Gly  
50 55 60  
Tyr Thr Pro Ser Asp Ala Ile Gln Thr Ala Ser Leu Leu Val Thr Ala  
65 70 75 80  
Arg

<210> 511

<211> 83

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 44122 right: 44370 frame: -2 size(aa): 83

<400> 511

Leu Pro Pro Phe His His Arg Pro Asp Ala Gly Pro Arg Asn Arg Pro  
1 5 10 15  
Pro Met Arg Leu Gly Gly Ser Ala Pro Arg Ala Arg Arg Arg Leu Leu  
20 25 30  
Ala Gln Ala Gly Ser His Leu Phe Arg Pro Ala Pro Arg Arg Gln Pro  
35 40 45  
Ala Ile Pro Ala Ala Pro Gly Arg Asp Thr Gly Pro Ala Ser Arg Lys  
50 55 60  
Ser Pro Gly Arg Pro Gln Gly Cys Pro Arg Ser Leu Pro Thr Val Ser  
65 70 75 80  
Ile Leu Arg

<210> 512

<211> 179

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 44142 right: 44678 frame: 1 size(aa): 179

<400> 512

Ala Ser Ser Gly Gly Ser Pro Gly Asp Gly Pro Gly Ser Ser Gly Ser  
1 5 10 15  
Pro Gly Pro Cys Arg Ala Gln Ala Leu Gln Glu Trp Gln Ala Ala Val  
20 25 30

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Glu Val Leu Asp Glu Ile Gly Gly Cys Leu Leu Gly Arg Ala Ala Tyr  
35 40 45  
Gly Ala Leu Glu Ala Gln Ile Leu Pro Gly Ala Leu Glu Gly Gly Phe  
50 55 60  
Glu Ala Gln His Leu Gly Gly Gly Glu Met Gly Ala Val Arg His Gly  
65 70 75 80  
Arg Arg Ser Gly Gly Met Arg Ala Gly Asp Gly Cys Ala Gly Arg Arg  
85 90 95  
Gly Gly Pro Gln Arg Gly Pro Gly Pro Gln Arg Ala Pro Gly Arg Pro  
100 105 110  
Gly Gly Gly Leu His Trp Ala Ala Gly Ala Leu Gly Arg Pro Ala Gly  
115 120 125  
Pro Gly Ala Thr Pro Gly Ala Pro Gly Ala His Arg Ser Pro Ser Arg  
130 135 140  
Trp Thr Trp Pro Trp Pro Gly Ala Ala Ser Pro Gly Gly His Arg Pro  
145 150 155 160  
Arg Thr Gly Arg Ser Ser Gly Ser Arg Pro Gly Pro Arg Ala Thr Thr  
165 170 175

Ala Pro Gly

<210> 513  
<211> 181  
<212> PRT  
<213> Cyanophage S-2L  
<220>  
<221> misc\_feature  
<223> New ORF = left: 44285 right: 44827 frame: -3 size(aa): 181

<400> 513

Arg Leu His Pro Arg Pro Gly Ala Pro Arg Leu Ala Trp Ala Ala Ala  
1 5 10 15  
Arg Gln Pro Gly Gly Leu Ala Asp Pro Ala Gln Gly Leu Arg Pro Ala  
20 25 30  
Pro Arg Arg His Pro Leu Arg Gly Pro Leu Ala Arg Gly Pro Gly Arg  
35 40 45  
Leu His Pro Gly Ala Val Val Ala Arg Gly Pro Gly Arg Leu Pro Asp  
50 55 60  
Asp Arg Pro Val Leu Gly Arg Cys Pro Pro Gly Leu Ala Ala Pro Gly  
65 70 75 80  
His Gly His Val His Leu Glu Gly Leu Arg Cys Ala Pro Gly Ala Pro  
85 90 95  
Gly Val Ala Pro Gly Pro Ala Gly Arg Pro Ser Ala Pro Ala Ala Gln  
100 105 110  
Trp Arg Pro Pro Pro Gly Arg Pro Gly Ala Arg Cys Gly Pro Gly Pro  
115 120 125  
Arg Cys Gly Pro Pro Leu Arg Pro Ala His Pro Ser Pro Ala Leu Ile

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140

130

135

Pro Pro Leu Arg Leu Pro Cys Leu Thr Ala Pro Ile Ser Pro Pro Pro  
145 150 155 160  
Arg Cys Trp Ala Ser Lys Pro Pro Ser Asn Ala Pro Gly Arg Ile Cys  
165 170 175  
Ala Ser Ser Ala Pro  
180

<210> 514  
<211> 127  
<212> PRT  
<213> Cyanophage S-2L  
  
<220>  
<221> misc\_feature  
<223> New ORF = left: 44360 right: 44740 frame: 3 size(aa): 127

<400> 514

Asn Gly Gly Ser Gln Ala Trp Glu Ala Glu Arg Trp Asp Glu Ser Arg  
1 5 10 15  
Arg Arg Met Arg Arg Ala Gln Arg Arg Ala Ala Ala Arg Pro Gly Ala  
20 25 30  
Ala Ala Gly Pro Gly Thr Pro Gly Arg Trp Pro Pro Leu Gly Gly Trp  
35 40 45  
Gly Ala Gly Pro Ser Gly Arg Pro Arg Gly His Ser Gly Gly Ala Gly  
50 55 60  
Gly Ala Ser Glu Pro Leu Gln Val Asp Met Ala Val Ala Gly Gly Ser  
65 70 75 80  
Gln Pro Arg Gly Ala Pro Pro Gln Asp Gly Pro Val Ile Arg Lys Pro  
85 90 95  
Thr Gly Ala Pro Arg His Asp Gly Thr Gly Met Lys Pro Thr Gly Ala  
100 105 110  
Pro Arg Gln Gly Pro Pro Glu Gly Val Pro Pro Arg Gly Gly Ser  
115 120 125

<210> 515  
<211> 227  
<212> PRT  
<213> Cyanophage S-2L  
  
<220>  
<221> misc\_feature  
<223> New ORF = left: 44374 right: 45054 frame: -2 size(aa): 227

<400> 515

Thr Thr Pro Pro Arg Pro Gly Pro Lys Pro Arg Ala Ala His Ala Leu  
1 5 10 15  
Arg Leu Leu Gly Asp Arg Gly Arg Pro Arg Arg Arg Pro Leu His  
20 25 30  
Pro Gly Ala Asp Pro Pro Asp Arg Arg Pro Pro Pro Gly Asp Leu Arg  
35 40 45



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Arg His Thr Gly Gly Arg Met Arg Leu Leu Leu Leu Leu Ala Leu  
 50 55 60  
 Val Pro Ala Ala Ala Trp Ala Asp Ala Pro Pro Asp Gly Phe Ile Pro  
 65 70 75  
 Asp Pro Gly Arg Pro Gly Trp Arg Gly Gln Arg Pro Asp Ser Pro Ala  
 85 90 95  
 Val Trp Gln Thr Pro Pro Arg Ala Tyr Asp Pro Pro Leu Gly Gly Thr  
 100 105  
 Pro Ser Gly Gly Pro Trp Arg Gly Ala Pro Val Gly Phe Ile Pro Val  
 115 120 125  
 Pro Ser Trp Arg Gly Ala Pro Val Gly Phe Arg Met Thr Gly Pro Ser  
 130 135 140  
 Trp Gly Gly Ala Pro Arg Gly Trp Leu Pro Pro Ala Thr Ala Met Ser  
 145 150 155  
 Thr Trp Arg Gly Ser Asp Ala Pro Pro Ala Pro Pro Glu Trp Pro Leu  
 165 170 175  
 Gly Leu Pro Asp Gly Pro Ala Pro Gln Pro Pro Asn Gly Gly His Leu  
 180 185 190  
 Pro Gly Val Pro Gly Pro Ala Ala Ala Pro Gly Leu Ala Ala Ala Leu  
 195 200 205  
 Leu Cys Ala Arg Arg Ile Arg Arg Arg Leu Ser Ser His Arg Ser Ala  
 210 215 220

Ser His Ala  
 225

<210> 516

<211> 171

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 44401 right: 44913 frame: 2 size(aa): 171

<400> 516

Glu Pro Ala Thr Asp Ala Pro Gly Ala Glu Glu Gly Arg Ser Glu Ala  
 1 5 10 15  
 Arg Gly Arg Ser Gly Pro Arg Asp Ala Arg Glu Val Ala Ser Ile Gly  
 20 25 30  
 Arg Leu Gly Arg Trp Ala Val Arg Gln Ala Gln Gly Pro Leu Arg Gly  
 35 40 45  
 Arg Arg Gly Arg Ile Gly Ala Pro Pro Gly Gly His Gly Arg Gly Arg  
 50 55 60  
 Gly Gln Pro Ala Pro Gly Gly Thr Ala Pro Gly Arg Ala Gly His Pro  
 65 70 75 80  
 Glu Ala Asp Arg Gly Pro Ala Pro Arg Arg His Arg Asp Glu Ala Asp  
 85 90 95  
 Arg Gly Pro Ala Pro Gly Ala Pro Gly Gly Ala Ala Glu Gly Arg  
 100 105 110

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Val Val Gly Pro Gly Arg Gly Leu Pro Asp Arg Arg Ala Val Gly Pro  
 115 120 125  
 Leu Pro Thr Pro Ala Gly Ala Pro Arg Val Gly Asp Glu Ala Val Arg  
 130 135 140  
 Trp Gly Val Gly Pro Gly Arg Ser Arg His Gln Gly Gln Gln Glu Gln  
 145 150 155 160  
 Gln Glu Pro His Ala Ala Ser Cys Met Ala Ala  
 165 170

<210> 517  
 <211> 84  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 44637 right: 44888 frame: -1 size(aa): 84

<400> 517  
 Gly Ser Cys Cys Ser Cys Trp Pro Trp Cys Arg Leu Arg Pro Gly Pro  
 1 5 10 15  
 Thr Pro His Leu Thr Ala Ser Ser Pro Thr Arg Gly Ala Pro Ala Gly  
 20 25 30  
 Val Gly Ser Gly Pro Thr Ala Arg Arg Ser Gly Arg Pro Arg Pro Gly  
 35 40 45  
 Pro Thr Thr Arg Pro Ser Ala Ala Pro Pro Pro Gly Ala Pro Gly Ala  
 50 55 60  
 Gly Pro Arg Ser Ala Ser Ser Arg Cys Arg Arg Gly Ala Gly Pro Arg  
 65 70 75 80  
 Ser Ala Ser Gly

<210> 518  
 <211> 168  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 44744 right: 45247 frame: 3 size(aa): 168

<400> 518  
 Ala Leu Gly Gly Val Cys Gln Thr Ala Gly Leu Ser Gly Arg Cys Pro  
 1 5 10 15  
 Arg Gln Pro Gly Arg Pro Gly Ser Gly Met Lys Pro Ser Gly Gly Ala  
 20 25 30  
 Ser Ala Gln Ala Ala Ala Gly Thr Arg Ala Ser Arg Ser Ser Arg Ser  
 35 40 45  
 Leu Met Arg Pro Pro Val Trp Arg Arg Arg Ser Pro Gly Gly Gly Arg  
 50 55 60  
 Arg Ser Gly Gly Ser Ala Pro Gly Cys Arg Gly Arg Arg Arg Gly Gly  
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261089ST25.txt															
65				70				75				80			
Arg	Pro	Arg	Ser	Pro <sub>85</sub>	Ser	Arg	Arg	Arg	Ala <sub>90</sub>	Cys	Ala	Ala	Arg	Gly <sub>95</sub>	Phe
Gly	Pro	Gly	Arg <sub>100</sub>	Gly	Gly	Val	Val	His <sub>105</sub>	Trp	Gly	Thr	Pro	Trp <sub>110</sub>	Val	Glu
Val	Gly	Ser <sub>115</sub>	Gln	Pro	Pro	Cys	Pro <sub>120</sub>	Ser	Thr	Arg	Ser	Thr <sub>125</sub>	Arg	Arg	Cys
Pro	Asp <sub>130</sub>	Arg	Ala	Cys	Gly	Trp <sub>135</sub>	Arg	Gly	Ser	Pro	Ser <sub>140</sub>	Ser	Cys	Ala	Gly
His <sub>145</sub>	Leu	Ile	Ile	Asn	Asn <sub>150</sub>	Gln	Ser	Ile	Trp	Glu <sub>155</sub>	Asp	Lys	Ser	Ile	Phe <sub>160</sub>
Gly	Phe	Ser	Pro	Cys <sub>165</sub>	Asn	Pro	Val								

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<210> 519
<211> 120
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 44823 right: 45182 frame: 1 size(aa): 120
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<400> 519

Ser 1	Arg	Gln	Val	Gly 5	Arg	Arg	Pro	Arg	Pro 10	Gln	Pro	Ala	Pro	Gly 15	Pro
Ala	Gly	Ala	Ala 20	Gly	Ala	Ser	Cys	Gly 25	Leu	Leu	Tyr	Gly	Gly 30	Val	Asp
Leu	Pro	Glu 35	Ala	Val	Ala	Gly	Leu 40	Ala	Asp	Leu	Leu	Arg 45	Gly	Ala	Gly
Asp	Asp 50	Val	Glu	Ala	Asp	Gly 55	Pro	Gly	Leu	Arg	Ala 60	Asp	Val	Gly	His
Val 65	Arg	Leu	Glu	Ala	Ser 70	Gly	Arg	Val	Glu	Gly 75	Ala	Ser	Phe	Thr	Gly 80
Ala	Pro	Pro	Gly	Ser 85	Arg	Trp	Ala	Pro	Ser 90	Arg	Arg	Ala	Pro	Ala 95	Pro
Asp	Pro	Pro	Gly 100	Asp	Ala	Gln	Ile	Glu 105	Leu	Ala	Ala	Gly	Glu 110	Asp	Leu
Leu	Pro	Leu 115	Val	Leu	Ala	Thr	Ser 120								

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<210> 520
<211> 128
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 44831 right: 45214 frame: -3 size(aa): 128
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**<400>      520**

261089ST25.txt

Phe Val Phe Pro Asn Gly Leu Val Val Asn Tyr Glu Val Ala Ser Thr  
 1 5 10 15  
 Arg Gly Arg Arg Ser Ser Pro Ala Ala Ser Ser Ile Trp Ala Ser Pro  
 20 25 30  
 Gly Gly Ser Gly Ala Gly Ala Arg Arg Leu Gly Ala His Leu Asp Pro  
 35 40 45  
 Gly Gly Ala Pro Val Asn Asp Ala Pro Ser Thr Arg Pro Glu Ala Ser  
 50 55 60  
 Ser Arg Thr Cys Pro Thr Ser Ala Arg Arg Pro Gly Pro Ser Ala Ser  
 65 70 75 80  
 Thr Ser Ser Pro Ala Pro Arg Ser Arg Ser Ala Arg Pro Ala Thr Ala  
 85 90 95  
 Ser Gly Arg Ser Thr Pro Pro Tyr Arg Arg Pro His Glu Ala Pro Ala  
 100 105 110  
 Ala Pro Ala Gly Pro Gly Ala Gly Cys Gly Leu Gly Arg Arg Pro Thr  
 115 120 125

<210> 521  
 <211> 96  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 44892 right: 45179 frame: -1 size(aa): 96

<400> 521  
 Gly Gly Gln His Lys Arg Lys Glu Ile Leu Ala Ser Arg Lys Leu Asp  
 1 5 10 15  
 Leu Gly Ile Ala Gly Trp Ile Trp Cys Trp Gly Thr Ala Ala Gly Ser  
 20 25 30  
 Pro Pro Arg Pro Arg Gly Cys Pro Ser Glu Arg Arg Pro Leu Asp Pro  
 35 40 45  
 Ala Arg Ser Leu Glu Pro His Met Pro Tyr Val Cys Ser Glu Thr Gly  
 50 55 60  
 Ala Val Arg Leu Asp Val Val Pro Cys Thr Pro Glu Gln Ile Arg Gln  
 65 70 75 80  
 Thr Gly Asp Arg Leu Arg Glu Ile Tyr Ala Ala Ile Gln Glu Ala Ala  
 85 90 95

<210> 522  
 <211> 59  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 44892 right: 45179 frame: -1 size(aa): 96

<400> 522  
 Gly Met Cys Gly Ser Arg Leu Arg Ala Gly Ser Arg Gly Arg Arg Ser  
 1 5 10 15

261089ST25.txt

Leu Gly His Pro Leu Gly Arg Gly Gly Leu Pro Ala Ala Val Pro Gln  
 20 25 30  
 His Gln Ile His Pro Ala Met Pro Arg Ser Ser Leu Arg Leu Ala Arg  
 35 40 45  
 Ile Ser Phe Leu Leu Cys Trp Pro Pro His Asn  
 50 55

<210> 523  
 <211> 63  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 45058 right: 45246 frame: -2 size(aa): 63

<400> 523  
 Thr Gly Leu Gln Gly Glu Asn Pro Lys Ile Asp Leu Ser Ser Gln Met  
 1 5 10 15  
 Asp Trp Leu Leu Ile Met Arg Trp Pro Ala Gln Glu Glu Gly Asp Pro  
 20 25 30  
 Arg Gln Pro Gln Ala Arg Ser Gly His Arg Arg Val Asp Leu Val Leu  
 35 40 45  
 Gly His Gly Gly Trp Glu Pro Thr Ser Thr Gln Gly Val Pro Gln  
 50 55 60

<210> 524  
 <211> 79  
 <212> PRT  
 <213> Cyanophage S-2L  
 <220>  
 <221> misc\_feature  
 <223> New ORF = left: 45189 right: 45425 frame: -1 size(aa): 79

<400> 524  
 Asn Tyr Leu Phe Phe Val Lys Val Gly Leu Val Asn Pro Glu Lys Pro  
 1 5 10 15  
 Leu Pro Ser Leu Gly Arg Pro Leu Ala Glu Gln Phe Val Ile Leu Phe  
 20 25 30  
 Pro Ile Leu Gly Asn Leu Lys Leu Tyr His Ser Phe Leu Glu Thr Phe  
 35 40 45  
 Arg Leu Leu Lys Lys Gly Val Tyr Ser Gly Val Lys Arg Asp Tyr Lys  
 50 55 60  
 Val Lys Thr Arg Lys Leu Ile Cys Leu Pro Lys Trp Ile Gly Cys  
 65 70 75

<210> 525  
 <211> 60  
 <212> PRT  
 <213> Cyanophage S-2L

<220>  
 <221> misc\_feature

<223> New ORF = left: 45241 right: 45420 frame: 2 size(aa): 60

<400> 525

Ser Arg Leu Thr Pro Glu Tyr Thr Pro Phe Phe Asn Ser Leu Lys Val  
1 5 10 15

Ser Lys Lys Glu Trp Tyr Asn Phe Lys Leu Pro Arg Ile Gly Asn Lys  
20 25 30

Ile Thr Asn Cys Ser Ala Lys Gly Leu Pro Ser Glu Gly Ser Gly Phe  
35 40 45

Ser Gly Leu Thr Asn Pro Thr Leu Thr Lys Asn Lys  
50 55 60

<210> 526

<211> 52

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 45250 right: 45405 frame: -2 size(aa): 52

<400> 526

Gly Trp Val Gly Gln Pro Gly Lys Thr Ala Thr Leu Ala Trp Lys Ala  
1 5 10 15

Leu Ser Gly Ala Ile Cys Asn Phe Ile Ser Asn Ser Trp Gln Phe Lys  
20 25 30

Val Val Pro Phe Leu Leu Gly Asp Phe Gln Ala Ile Glu Lys Gly Gly  
35 40 45

Val Leu Trp Ser  
50

<210> 527

<211> 70

<212> PRT

<213> Cyanophage S-2L

<220>

<221> misc\_feature

<223> New ORF = left: 45356 right: 45565 frame: -3 size(aa): 70

<400> 527

Lys Lys Glu Val Gly Phe Lys Gly Lys Val Glu Val Gly Phe Asn Glu  
1 5 10 15

Gly Asn Tyr Lys Lys Lys Gly Ile Tyr Arg Val Leu Asn Glu Cys Gln  
20 25 30

Glu Ile Glu Gly Ser Val Met Ser Phe Phe Arg Phe Gly Phe Lys Ile  
35 40 45

Ile Cys Phe Leu Leu Arg Leu Gly Trp Ser Thr Arg Lys Asn Arg Tyr  
50 55 60

Pro Arg Leu Glu Gly Pro  
65 70

<210> 528  
 <211> 6  
 <212> PRT  
 <213> Cyanophage S-2L

<400> 528

Gly Ser Thr Gly Lys Gly  
 1 5

<210> 529  
 <211> 8  
 <212> PRT  
 <213> Cyanophage S-2L

<400> 529

Gln Tyr Gly Ser Thr Gly Lys Gly  
 1 5

<210> 530  
 <211> 8  
 <212> PRT  
 <213> Cyanophage S-2L

<400> 530

Gln Trp Gly Asp Glu Gly Lys Gly  
 1 5

<210> 531  
 <211> 6  
 <212> PRT  
 <213> Cyanophage S-2L

<400> 531

Gly Asp Glu Gly Lys Gly  
 1 5